MHC-VX33

SERVICE MANUAL

E Model
Tourist Model

- MHC-VX33 is composed of following model.
  As for the service manual, it is issued for each component model,then, please refer to them.

COMPONENT MODEL NAME

	MHC-VX33 (EXCEPT E)	MHC-VX33 (E)
COMPACT DISC DECK RECEIVER SYSTEM	HCD-VX33	HCD-VX33
SPEAKER SYSTEM	SS-VX33	SS-VX33B

- Abbreviation

EA : Saudi Arabia
SP : Singapore
IA : Indonesia
TW : Taiwan
MY : Malaysia
TH : Thai
HK : Hong Kong
JE : Tourist

SPECIFICATIONS

General

Power requirements	
Thai model:	220 V AC, 50/60 Hz
Other models:	120 V,220V or 230-240V AC, 50/60 Hz Adjustable with voltage selector.
Power consumption	190 watts
Dimensions (w/h/d)	Approx. 280 x 325 x 403 mm
Mass:	Approx. 8.9 kg
Supplied accessories:	AM loop antenna (1) FM lead antenna (1) Remote Commander (1) Batteries (2) Video cable (1) Front speaker pads (8)

Design and specifications are subject to change without notice.

PARTS LIST

Part No.	Description	Remark
	ACCESSORIES & PACKING MATERIALS **********************************	
1-418-762-11	COMMANDER, STANDARD (RM-SV100)(EXCEPT E)	
1-418-762-21	COMMANDER, STANDARD (RM-SV100B)(E)	
1-501-374-11	ANTENNA, LOOP	
1-501-659-71	ANTENNA (FM)	
1-751-619-11	CORD, CONNECTION (EXCEPT TH)	
3-868-164-11	MANUAL, INSTRUCTION (ENGLISH)(EXCEPT IA, TH)	
3-868-164-21	MANUAL, INSTRUCTION (FRENCH)(EA)	
3-868-164-31	MANUAL, INSTRUCTION (FRENCH, SPANISH)(E, SP, MY)	
3-868-164-41	MANUAL, INSTRUCTION (CHINESE)(TW, JE, E, SP, MY, HK)	
3-868-164-51	MANUAL, INSTRUCTION (ARABIC)(E, EA)	
4-226-475-11	MANUAL, INSTRUCTION (ENGLISH, THAI)(TH)	
4-227-119-11	MANUAL, INSTRUCTION (ENGLISH, INDONESIAN)(IA)	
4-227-119-61	MANUAL, INSTRUCTION (CHINESE)(JE)	
4-227-119-81	MANUAL, INSTRUCTION (PORTUGUESE/ KOREAN)(JE)	
4-210-254-01	CUSHION FOOT	
4-983-536-11	COVER, BATTERY (FOR RM-SV100)	
4-983-536-01	COVER, BATTERY (FOR RM-SV100B)	

MINI Hi-Fi COMPONENT SYSTEM

SONY®

2000C001624-1D
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Published by Quality Assurance Dept.

Sony Corporation
Home Audio Division Company

9-929-097-11

HCD-VX33

SERVICE MANUAL

E Model
Tourist Model

- HCD-VX33 is the tuner, deck, CD and amplifier section in MHC-VX33.

CD Section	Model Name Using Similar Mechanism	NEW
	CD Mechanism Type	CDM58-K2BD37A
	Base Unit Name	BU-K2BD37A
	Optical Pick-up Name	KSM-213DAP
Tape deck Section	Model Name Using Similar Mechanism	NEW
	Tape Transport Mechanism Type	TCM-230AWR11

SPECIFICATIONS

Amplifier section

MHC-VX33:

The following measured at AC 120, 220, 240 V 50/60 Hz

DIN power output (rated)	75 + 75 watts (6 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)	100 + 100 watts (6 ohms at 1 kHz, 10% THD)

Inputs

MD / VIDEO IN: (phono jacks)	voltage 450 / 250 mV, impedance 47 kilohms
MIC: (mini jack)	sensitivity 1 mV, impedance 10 kilohms

Outputs

VIDEO OUT: (phono jack)	max. output level 1Vp-p, unbalanced, Sync negative, load impedance 75 ohms
S-VIDEO OUT: (4-pin / mini-DIN jack)	Y: 1Vp-p, unbalanced, Sync negative, C: 0.286Vp-p, load impedance 75 ohms
PHONES: (stereo mini jack)	accepts headphones of 8 ohms or more
SPEAKER: MHC-VX33:	accepts impedance of 6 to 16 ohms

VIDEO CD/CD player section

System	Compact disc and digital audio system
Laser	Semiconductor laser (λ=780 nm) Emission duration: continuous
Laser output	Max. 44.6 μW* *This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block with 7 mm aperture.
Wavelength	780 — 790 nm
Frequency response	2 Hz — 20 kHz (±0.5 dB)
Signal-to-noise ratio	More than 90 dB
Dynamic range	More than 90 dB
Video color system format	NTSC, PAL

CD OPTICAL DIGITAL OUT
(Square optical connector jack, rear panel)

Wavelength	660 nm
Output Level	—18 dBm

— Continued on next page —

MINI Hi-Fi COMPONENT SYSTEM

SONY®

Tape player section

Recording system	4-track 2-channel stereo
Frequency response	40 — 13,000 Hz (±3 dB), using Sony TYPE I cassette

Tuner section

FM stereo, FM / AM superheterodyne tuner

FM tuner section

Tuning range	
Tourist model:	76.0 — 108.0 MHz
Other models:	87.5 — 108.0 MHz
Antenna	FM lead antenna
Antenna terminals	75 ohm unbalanced
Intermediate frequency	10.7 MHz

AM tuner section

Tuning range	
Middle Eastern model:	531 — 1,602 kHz (with the interval set at 9 kHz)
Other models:	531 — 1,602 kHz (with the interval set at 9 kHz) 530 — 1,710 kHz (with the interval set at 10 kHz)
Antenna	AM loop antenna
Antenna terminals	External antenna terminal
Intermediate frequency	450 kHz

General

Power requirements	
Thai model:	220 V AC, 50 / 60 Hz
Other models:	120 V, 220 V or 230 — 240 V AC, 50 / 60 Hz Adjustable with voltage selector
Power consumption	190 watts
Dimensions (w / h / d)	Approx. 280 x 325 x 403 mm
Mass	Approx. 8.9 kg
Supplied accessories:	AM loop antenna (1) FM lead antenna (1) Remote Commander (1) Batteries (2) Video cable (1) Front speaker pads (8)

Design and specifications are subject to change without notice.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit Board Repairing
   - Keep the temperature of the soldering iron around 270˚C during repairing.
   - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
   - Be careful not to apply force on the conductor when soldering or unsoldering.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of soldering iron around 270˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

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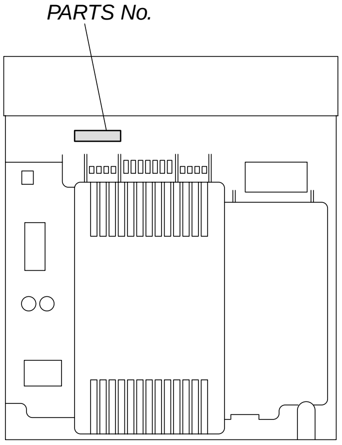
SECTION 1
SERVICE NOTE

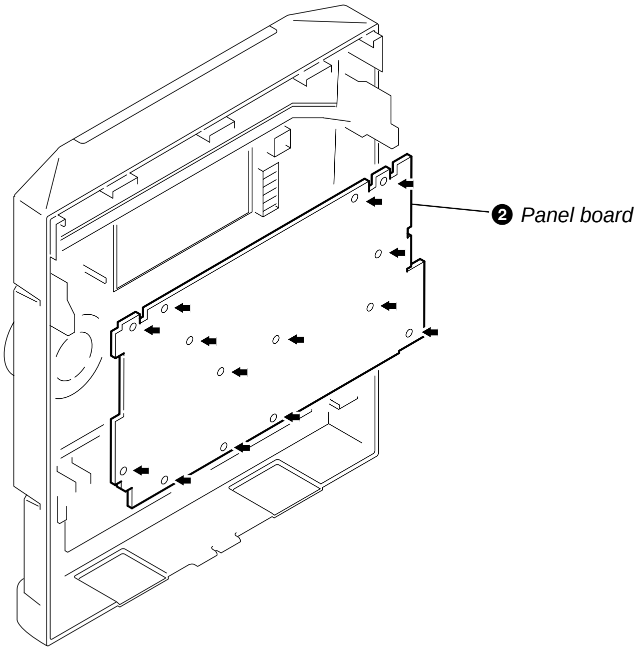
MODEL IDENTIFICATION

— BACK PANEL —



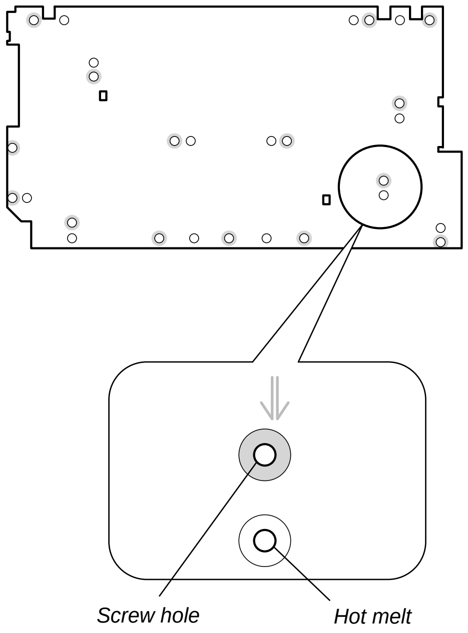
MODEL	PARTS No.
E, EA, HK, MY, SP, TW, JE models	4-224-547-3☐
TH model	4-224-547-5☐
IA model	4-226-245-4☐

- Abbreviation
  EA :Saudi Arabia model
  MY :Malaysia model
  SP :Singapore model
  TH :Thai model
  TW :Taiwan model
  IA :Indonesia model
  HK :Hong Kong model
  JE :Tourist model



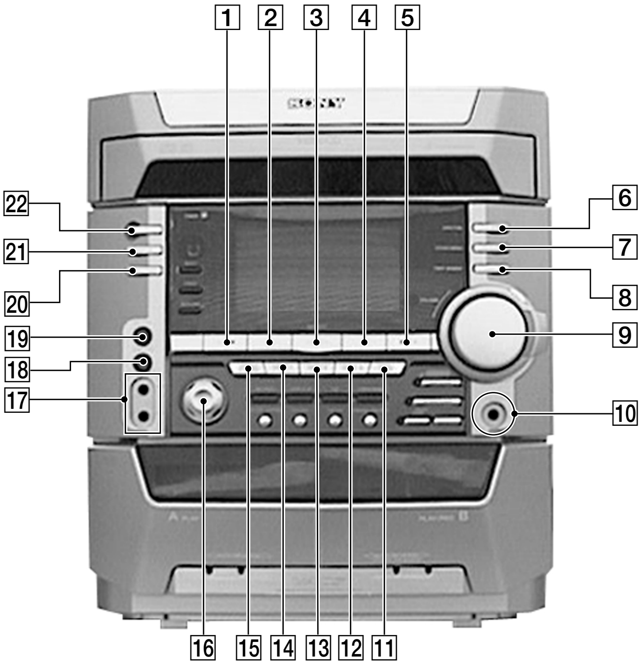
❶ *Cut the fourteen melted-connection points with a cutting plier.*

Note for installing the panel board



Attach the panel board with
fourteen screws (+BVTP 2.6 × 8)
after the board is removed once.
Do not tighten the screws excessively.

SECTION 2
GENERAL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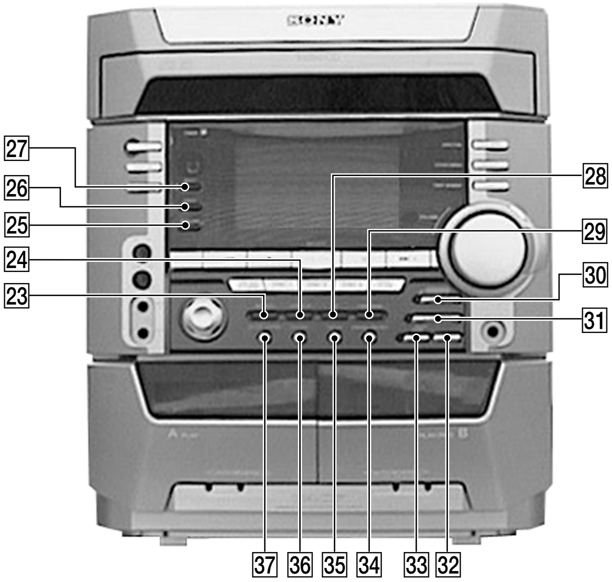
SONY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SONY

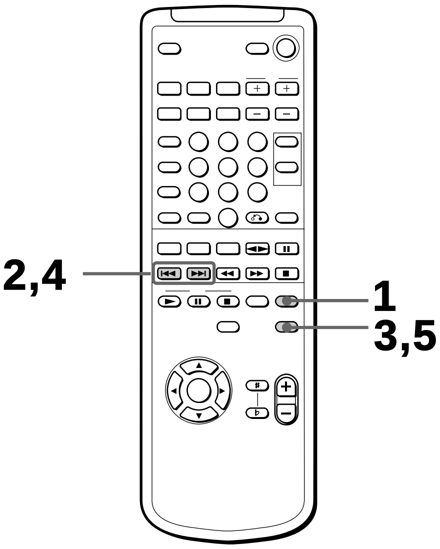
1 – ⏮ button
2 ■ button
3 ◁▷/SELECT button
4 ⏸ button
5 ⏭ + button
6 PLAY MODE button
7 REPEAT button
8 EDIT button
9 VOLUME knob
10 PHONE jack
11 OPEN/CLOSE button
12 DISC 3 button
13 DISC 2 button
14 DISC 1 button
15 DISC SKIP EX-CHANGE button
16 CURSOL button
17 MIC jack
18 ECHO LEVEL knob
19 MIC LEVEL knob
20 SPECTRUM button
21 DISPLAY button
22 I/⏻ button

23 MD/VIDEO button and indicator
24 TAPE A/B button and indicator
25 RETURN button
26 PREV button
27 NEXT button
28 CD button and indicator
29 TUNER/BAND button and indicator
30 GROOVE button and indicator
31 CINEMA SPACE button and indicator
32 CD SYNC HI-DUB button
33 REC PAUSE/START button and indicator
34 KARAOKE PON/MPX button
35 ENTER button
36 EQ EDIT button
37 PICTURE EFFECT button

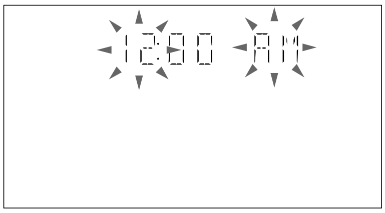
This section is extracted from
instruction manual.

Step2: Setting the time

You must set the time before using the timer functions.

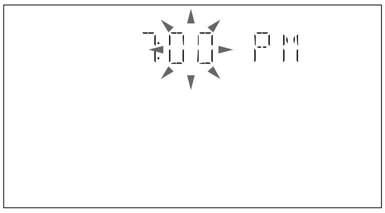


1 Press CLOCK / TIMER SET.
The hour indication flashes.



2 Press ⏮ or ⏭ repeatedly to set the hour.

3 Press ENTER.
The minute indication flashes.



4 Press ⏮ or ⏭ repeatedly to set the minute.

5 Press ENTER.
The clock starts working.

Tip

If you make a mistake, start over from step 1.

To change the time

The previous explanation shows how to set the time while the power is off. To change the time while the power is on, do the following:

1. Press CLOCK / TIMER SET.
2. Press ⏮ or ⏭ repeatedly to select SET CLOCK.
3. Press ENTER.
4. Perform steps 2 through 5 above.

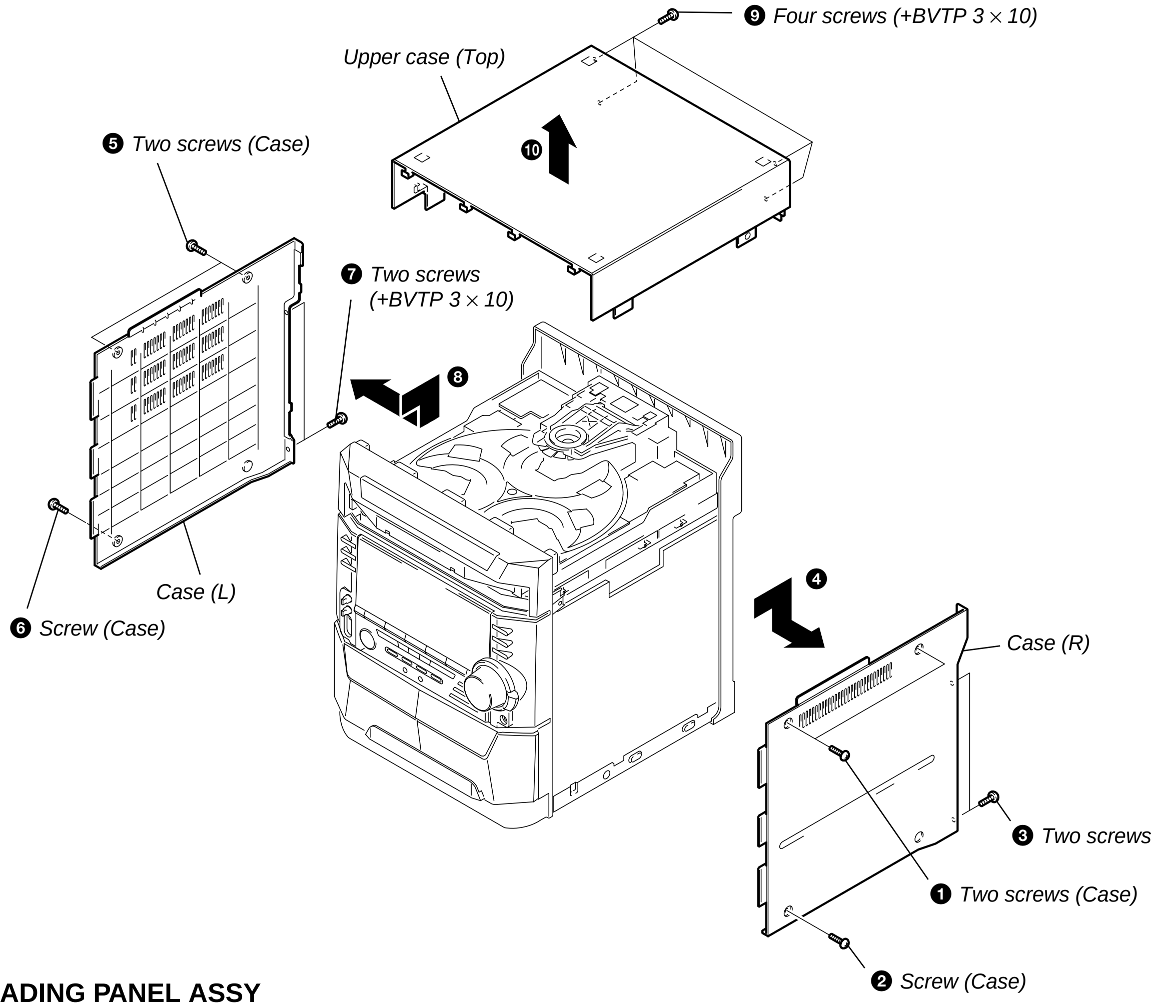
Note

The clock settings are canceled when you disconnect the power cord or if a power failure occurs.

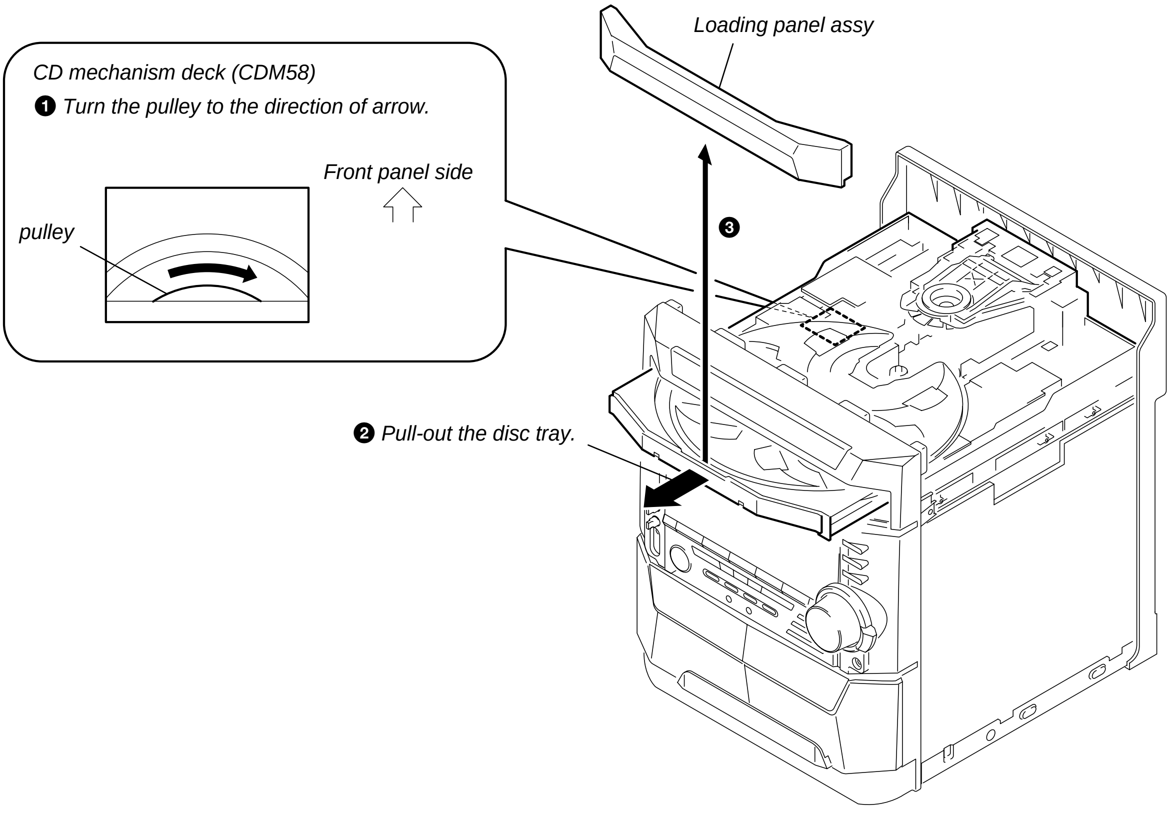
SECTION 3
DISASSEMBY

Note : Follow the disassembly procedure in the numerical order given.

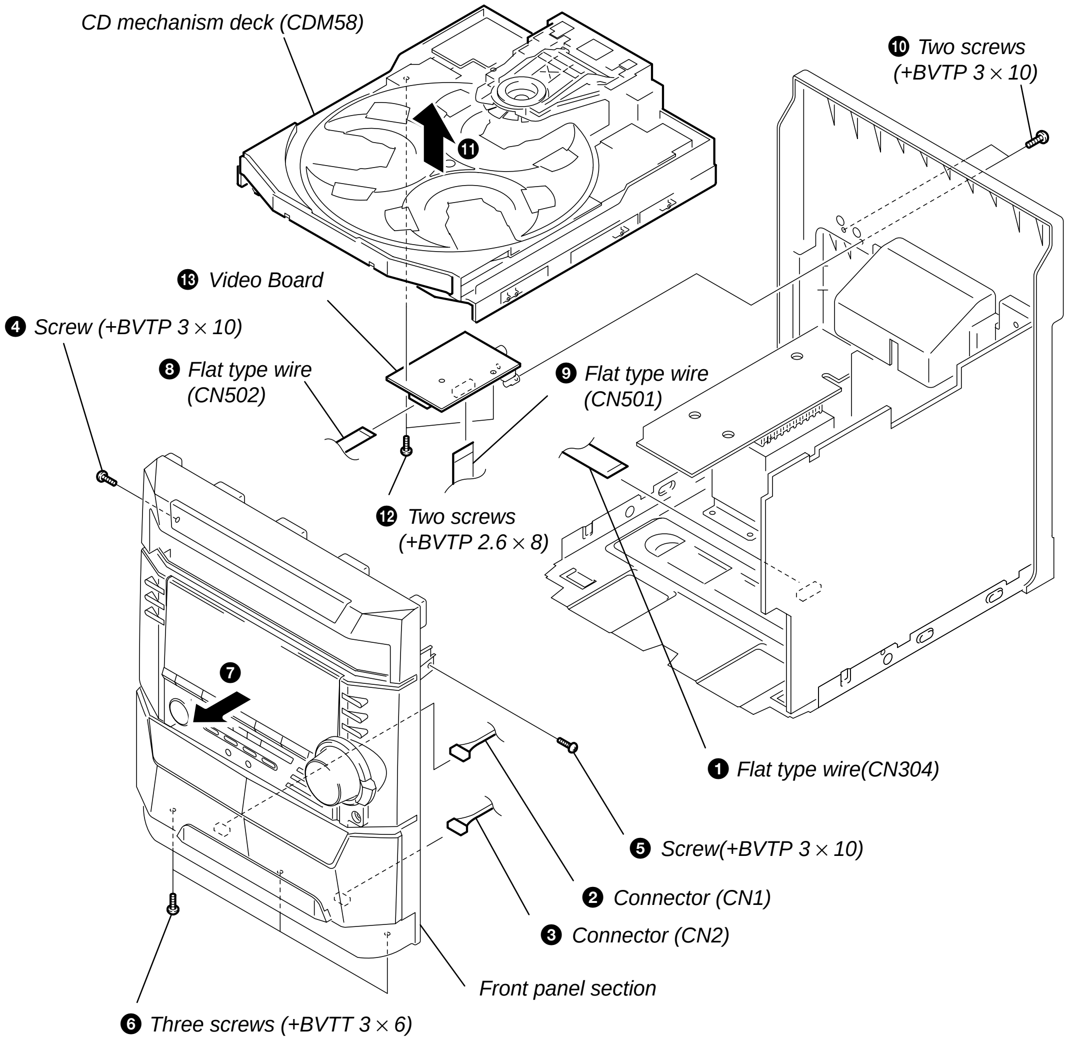
3-1. UPPER CASE (TOP)


❾ Four screws (+BVTP 3 × 10)
Upper case (Top)
❺ Two screws (Case)
❿
❼ Two screws (+BVTP 3 × 10)
❽
Case (L)
❻ Screw (Case)
❹
Case (R)
❸ Two screws
❶ Two screws (Case)
❷ Screw (Case)

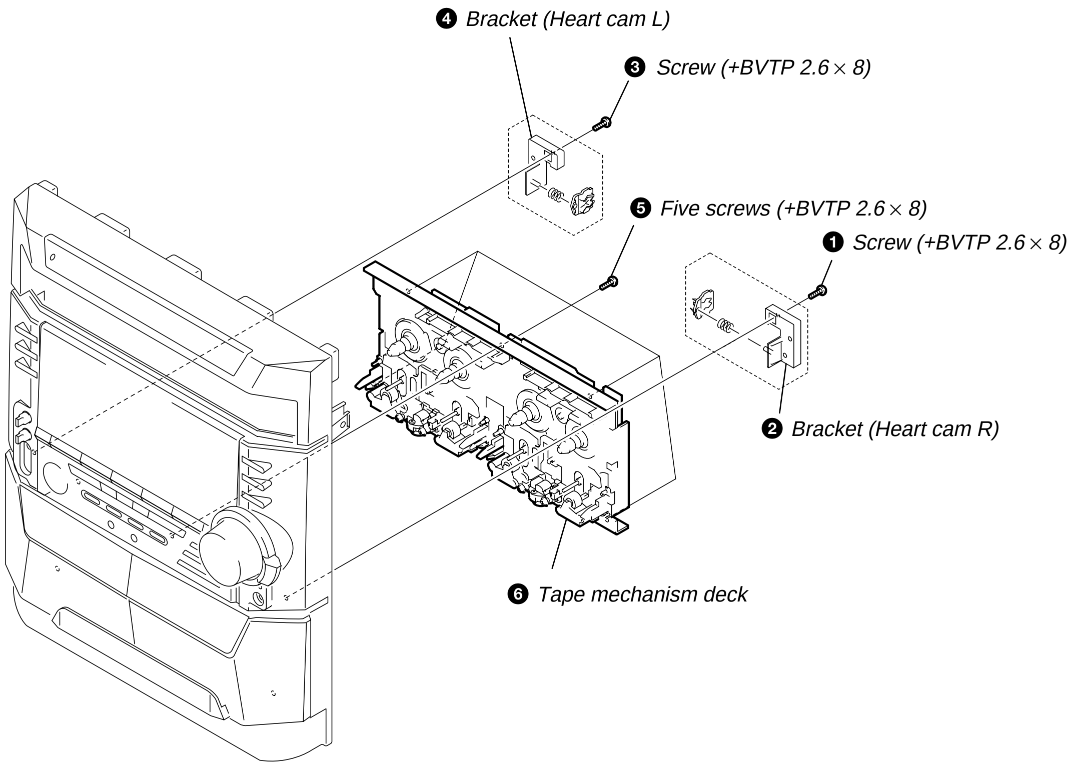
3-2. LOADING PANEL ASSY


Loading panel assy
CD mechanism deck (CDM58)
❶ Turn the pulley to the direction of arrow.
Front panel side
pulley
❸
❷ Pull-out the disc tray.

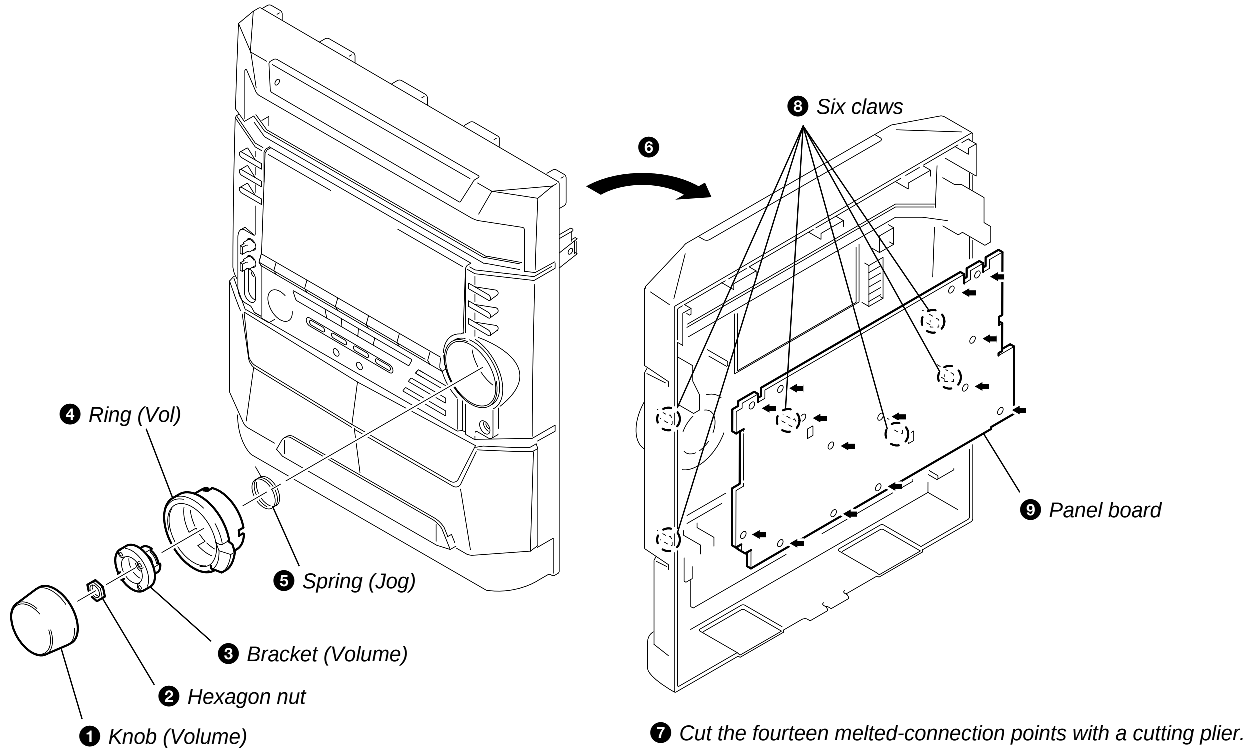
3-3. FRONT PANEL SECTION


CD mechanism deck (CDM58)
⓾ Two screws
(+BVTP 3 × 10)
⓫
⓭ Video Board
❹ Screw (+BVTP 3 × 10)
❽ Flat type wire
(CN502)
❾ Flat type wire
(CN501)
⓬ Two screws
(+BVTP 2.6 × 8)
❼
❶ Flat type wire(CN304)
❺ Screw(+BVTP 3 × 10)
❷ Connector (CN1)
❸ Connector (CN2)
Front panel section
❻ Three screws (+BVTT 3 × 6)

3-4. TAPE MECHANISM DECK

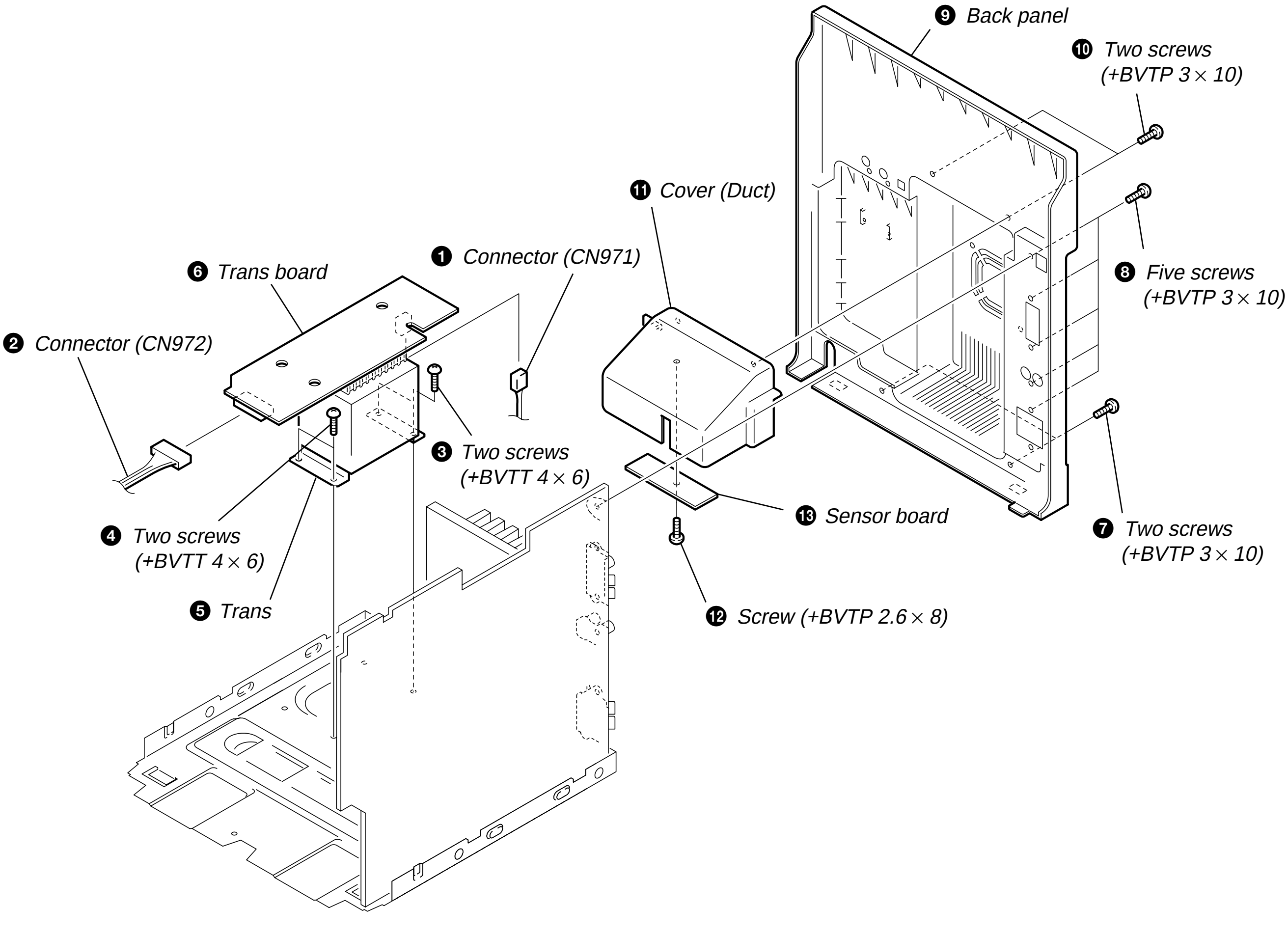

❹ Bracket (Heart cam L)
❸ Screw (+BVTP 2.6 × 8)
❺ Five screws (+BVTP 2.6 × 8)
❶ Screw (+BVTP 2.6 × 8)
❷ Bracket (Heart cam R)
❻ Tape mechanism deck

3-5. PANEL BOARD

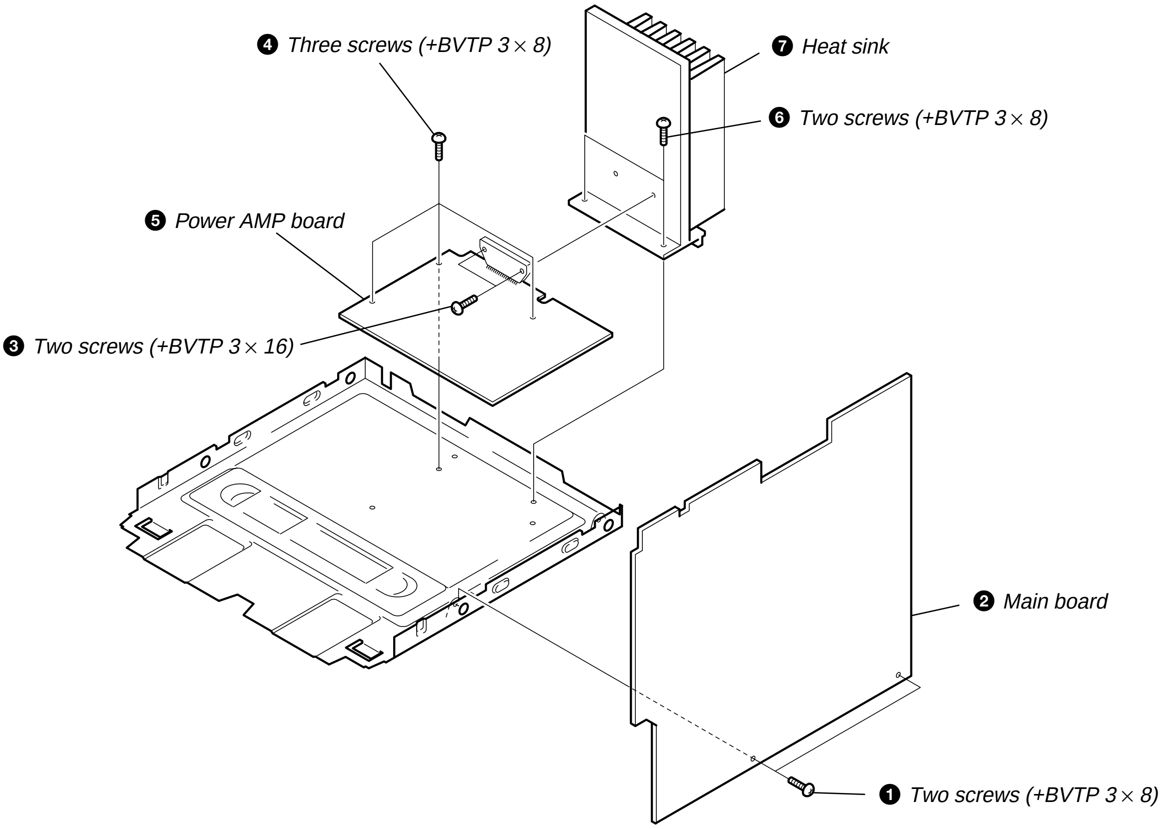

❽ Six claws
❻
❹ Ring (Vol)
❾ Panel board
❺ Spring (Jog)
❸ Bracket (Volume)
❷ Hexagon nut
❶ Knob (Volume)
❼ Cut the fourteen melted-connection points with a cutting plier.

Note: When attching the panel board,
refer to "Service Note" on page 4.

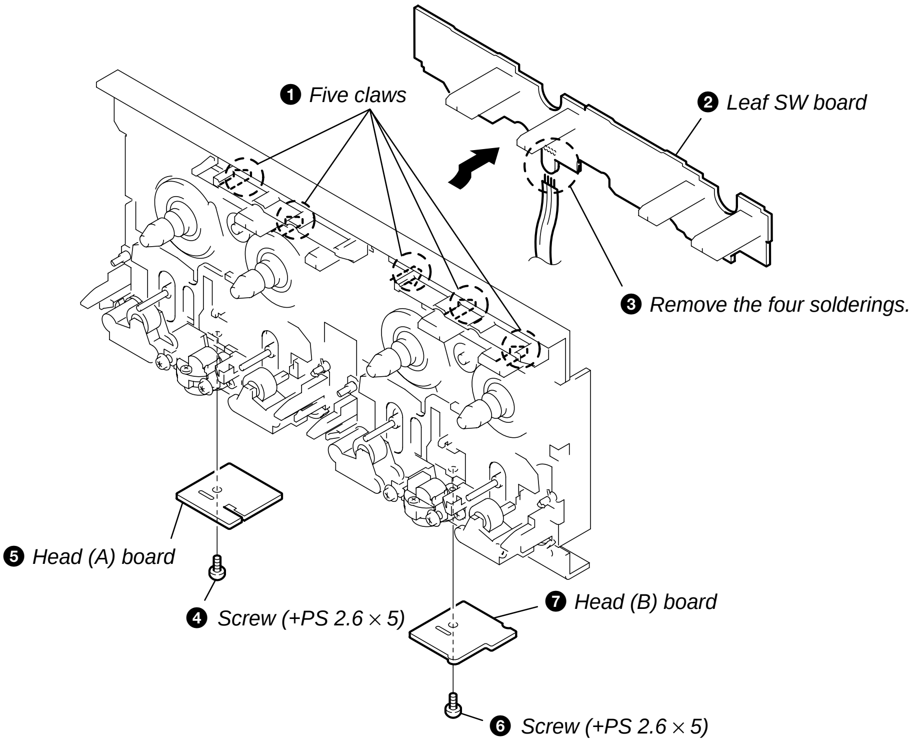
3-6. SUB-TRANS BOARD AND TRANS BOARD


❾ Back panel
❿ Two screws
(+BVTP 3 × 10)
⓫ Cover (Duct)
❻ Trans board
❶ Connector (CN971)
❽ Five screws
(+BVTP 3 × 10)
❷ Connector (CN972)
❸ Two screws
(+BVTT 4 × 6)
⓭ Sensor board
❹ Two screws
(+BVTT 4 × 6)
❼ Two screws
(+BVTP 3 × 10)
❺ Trans
⓬ Screw (+BVTP 2.6 × 8)

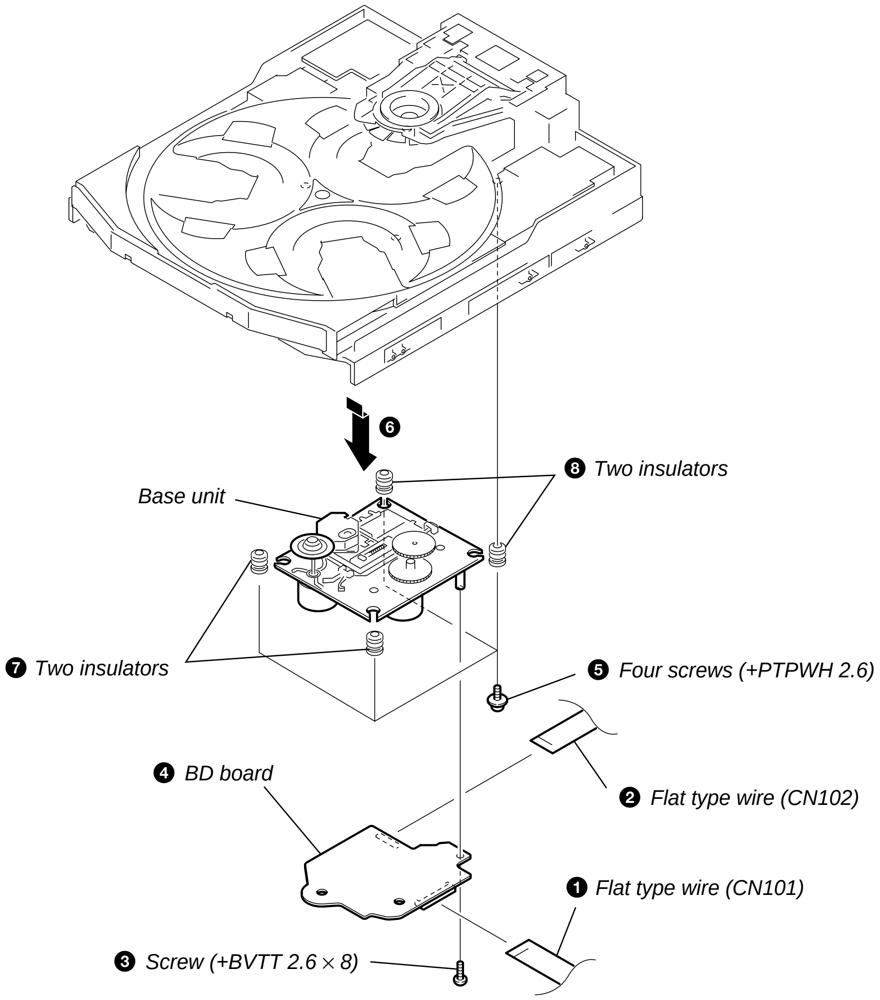
3-7. MAIN BOARD AND AMP BOARD


❹ Three screws (+BVTP 3 × 8)
❼ Heat sink
❻ Two screws (+BVTP 3 × 8)
❺ Power AMP board
❸ Two screws (+BVTP 3 × 16)
❷ Main board
❶ Two screws (+BVTP 3 × 8)

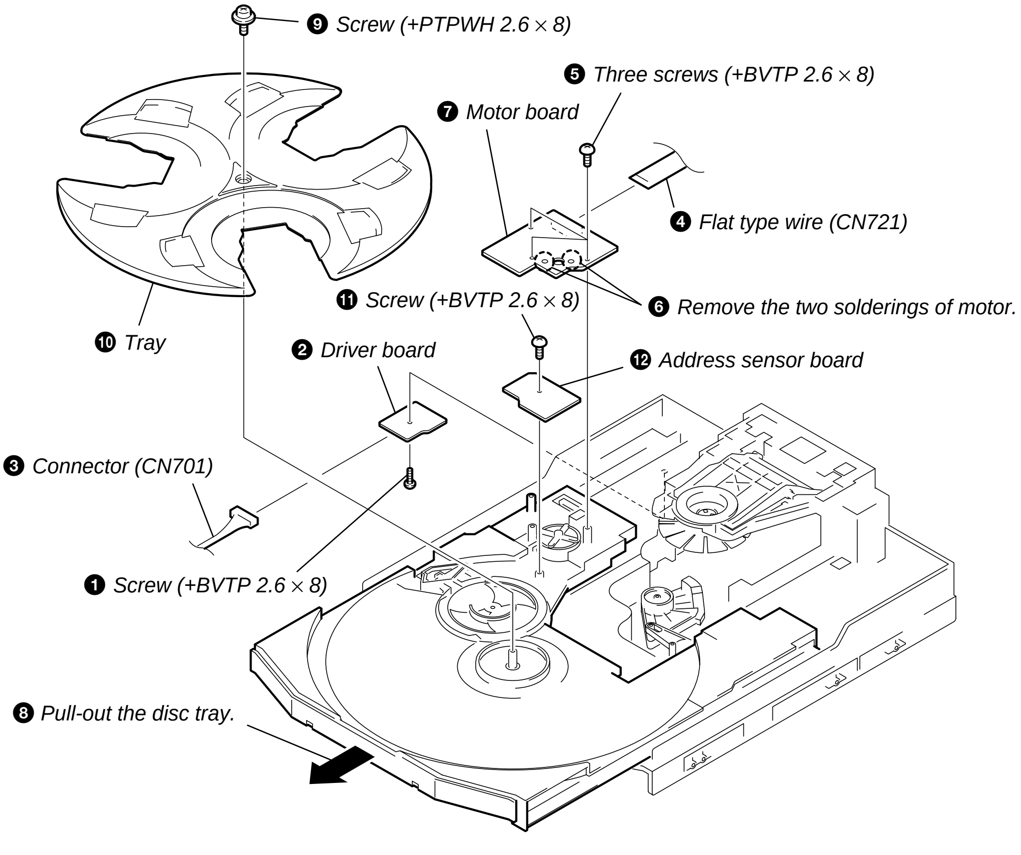
3-8. LEAF SW BOARD, HEAD (A) BOARD AND HEAD (B) BOARD


❶ Five claws
❷ Leaf SW board
❸ Remove the four solderings.
❺ Head (A) board
❹ Screw (+PS 2.6 × 5)
❼ Head (B) board
❻ Screw (+PS 2.6 × 5)

3-9. BASE UNIT


❻
❽ Two insulators
Base unit
❼ Two insulators
❺ Four screws (+PTPWH 2.6)
❹ BD board
❷ Flat type wire (CN102)
❶ Flat type wire (CN101)
❸ Screw (+BVTT 2.6 × 8)

3-10. DRIVER BOARD, MOTOR BOARD AND ADDRESS SENSOR BOARD


❾ Screw (+PTPWH 2.6 × 8)
❺ Three screws (+BVTP 2.6 × 8)
❼ Motor board
❹ Flat type wire (CN721)
⓫ Screw (+BVTP 2.6 × 8)
❻ Remove the two solderings of motor.
❿ Tray
❷ Driver board
⓬ Address sensor board
❸ Connector (CN701)
❶ Screw (+BVTP 2.6 × 8)
❽ Pull-out the disc tray.

SECTION 4
TEST MODE

[MC Cold Reset]

- The cold reset clears all data including preset data stored in the RAM to initial conditions. Execute this mode when returning the set to the customer.

Procedure:

1. Press three buttons ■, ENTER, and I/⏻ simultaneously.
2. The fluorescent indicator tube displays “COLD RESET” and the set is reset.

[CD Ship Mode]

- This mode moves the pickup to the position durable to vibration. Use this mode when returning the set to the customer after repair.

Procedure:

1. Press I/⏻ button to turn the set ON.
2. Press three buttons ■, ENTER, and SPECTRUM simultaneously.
3. After the "STANDBY" display blinks six times, a message “LOCK” is displayed on the fluorescent indicator tube, and the CD ship mode is set.

[MC Hot Reset]

- This mode resets the set with the preset data kept stored in the memory. The hot reset mode functions same as if the power cord is plugged in and out.

Procedure:

1. Press three buttons ■, ENTER, and DISPLAY simultaneously.
2. The fluorescent indicator tube becomes blank instantaneously, and the set is reset.

[CD Service Mode]

- This mode can run the CD sled motor freely. Use this mode, for instance, when cleaning the pickup.

Procedure:

1. Press I/⏻ button to turn the set ON.
2. Select the function “CD”.
3. Press three buttons ■, ENTER, and ⏏ OPEN/CLOSE simultaneously.
4. The CD service mode is selected.
5. With the CD in stop status, turn the shuttle knob clockwise to move the pickup to outside track, or turn the shuttle knob counter-clockwise to inside track.
6. To exit from this mode, perform as follows:
   1) Move the pickup to the most inside track.
   2) Press three buttons in the same manner as step 2.

Note:
- Always move the pickup to most inside track when exiting from this mode. Otherwise, a disc will not be unloaded.
- Do not run the sled motor excessively, otherwise the gear can be chipped.

[VACS ON/OFF Mode]

- This mode is used to switch ON and OFF the VACS (Variable Attenuation Control System).

Procedure:

Press the ENTER and SPECTRUM buttons simultaneously. The message “VACS OFF” or “VACS ON” appears.

[Change-over of AM Tuner Step between 9 kHz and 10 kHz]

- A step of MW channels can be changed over between 9 kHz and 10 kHz.

Procedure:

1. Press I/⏻ button to turn the set ON.
2. Select the function “TUNER”, and press TUNER/BAND button to select the BAND “AM”.
3. Press I/⏻ button to turn the set OFF.
4. Press ENTER and I/⏻ buttons simultaneously, and the display of fluorescent indicator tube changes to “AM 9 k STEP” or “AM 10 k STEP”, and thus the channel step is changed over.

[GC Test Mode]

- This mode is used to check the software version, FL tube, LED, keyboard and VACS.

Procedure:

1. Press three buttons ■, ENTER, and DISC 2 simultaneously.
2. LEDs and fluorescent indicator tube are all turned on.
3. When you want to enter the software version display mode, press DISC 1. The model number and destination are displayed.
4. Each time DISC 1 is pressed, the display changes starting from MC version, GC version, VC version, CD version, CM version, ST version, TC version, TA version, TM version and BR version in this order, and returns to the model number and destination display.
5. When DISC 3 is pressed while the version numbers are being displayed except model number and destination, year, month and day of the software creation appear. When DISC 3 is pressed again, the display returns to the software version display. When DISC 1 is pressed while year, month and day of the software creation are being displayed, the year, month and day of creation of the software versions are displayed in the same order of version display.
6. Press DISC 2 button, and the key check mode is activated.
7. In the key check mode, the fluorescent indicator tube displays “KEY0 VOL0”. Each time a button is pressed, “KEY” value increases. However, once a button is pressed, it is no longer taken into account.
   “VOL” value increases like 1, 2, 3 ... if rotating VOLUME knob in “+” direction, or it decreases like 0, 9, 8 ... if rotating in “–” direction.
8. Also when DISC 3 is pressed after lighting of all LEDs and FL tubes, value of VACS appears.
9. To exit from this mode, press three buttons in the same manner as step 1, or disconnect the power cord.

[MC Test Mode]

- This mode is used to check operations of the respective sections of Amplifier, Tuner, CD and Tape.

Procedure:

1. Press the three buttons of ■, ENTER and DISC 3 simultaneously.
2. A message “TEST MODE” appears on the FL display tube.
3. When △ (CURSOR UP) button is pressed, GEQ increases to its maximum and a message “GEQ AMX” appears.
4. When ▽ (CURSOR DOWN) button is pressed, GEQ decreases to its minimum and a message “GEQ MIN” appears.
5. When ◁ (CURSOR LEFT) or ▷ (CURSOR RIGHT) button is pressed, GEQ is set to flat and a message “GEQ FLAT” appears.
6. When the VOLUME control knob is turned clockwise even slightly, the sound volume increases to its maximum and a message “VOLUME MAX” appears for two seconds, then the display returns to the original display.
7. When the VOLUME control knob is turned counter-clockwise even slightly, the sound volume decreases to its minimum and a message “VOLUME MIN” appears for two seconds, then the display returns to the original display.
8. In the test mode, the default-preset channel is called even when the TUNER is selected and an attempt is made to call the preset channel that has been stored in memory, by operating the Shuttle knob. (It means that the memory is cleared.)
9. When CD is selected and the EDIT button is pressed, the disc that is being chucked at this moment becomes the default setting. It means that the default disc only is accessed when any other discs are selected even though the display indication changes accordingly. At the same time, the DISK SKIP EX-CHANGE and OPEN/CLOSE cannot be accepted. (It means that the tray motor and the turntable motor are disabled of their operation.)
10. When a tape is inserted in Deck B and recording is started, the input source function selects VIDEO automatically.
11. When ■ button is pressed to stop recording, the Tape (Deck) B is selected and tape is rewound using the Shuttle knob, tape is rewound, tape is stops at around the record-starting position and playback of the recorded portion of the tape is started. If PAUSE is inserted even once during recording, tape is rewound to the position around the PAUSE position and is played back.
12. When the CD SYNC HI-DUB Button is press during playback of Deck B, either normal speed or high speed can be selected by this button.
13. Select the desired loop by pressing the PLAY MODE button. Insert a test tape AMS-110A or AMS-RO to Deck A.
14. Press the SPECTRUM button to enter the AMS test mode.
15. After a tape is rewound first, the FF AMS is checked, and the mechanism is shut off after detecting the AMS signal twice.
16. Then the REW AMS is checked and the mechanism is shut off after detecting the AMS signal twice.
17. When the check is complete, a message of either OK or NG appears.
18. When you want to exit this mode, press the I/⏻ button twice. The cold reset is enforced at the same time.

[Tape Aging Mode]

This mode can be used for operation check of tape deck section. Tape deck section work in parallel.

- If an error occurred:
  The aging operation stops and displays then status.
- If no error occurs:
  The aging operation continues repeatedly.

Procedure:

1. Load the tapes into the decks A and B respectively.
2. Press the CD button to select the function “CD”.
3. Press the PLAY MODE button to set the ALL DISCS mode, and press the REPEAT button to “REPEAT” off.
4. Press three buttons of ■, ENTER, and DISC SKIP/EX-CHANGE simultaneously.
5. The aging mode is activated.
6. To exit from the aging mode, press the I/⏻ button to turn the power OFF and operate the cold reset. (Refer to the “MC Cold Reset”)

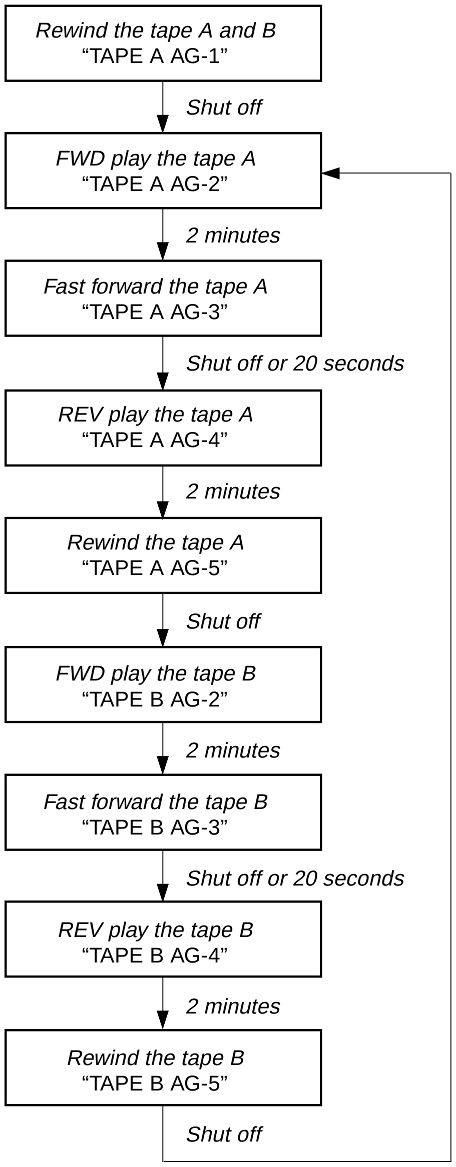
1. Display at the Aging Mode

- Display operating state of tape deck section alternately.
- If an error occurred, stop display.

2. Tape Deck Section

- The sequence during the aging mode is following as below.
- If an error occurred, stop display that step.

Aging mode sequence (Tape deck section) :

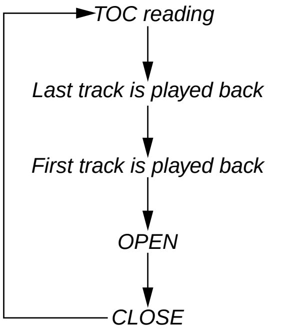

Rewind the tape A and B
“TAPE A AG-1”
Shut off
FWD play the tape A
“TAPE A AG-2”
2 minutes
Fast forward the tape A
“TAPE A AG-3”
Shut off or 20 seconds
REV play the tape A
“TAPE A AG-4”
2 minutes
Rewind the tape A
“TAPE A AG-5”
Shut off
FWD play the tape B
“TAPE B AG-2”
2 minutes
Fast forward the tape B
“TAPE B AG-3”
Shut off or 20 seconds
REV play the tape B
“TAPE B AG-4”
2 minutes
Rewind the tape B
“TAPE B AG-5”
Shut off

Note: “TAPE ∗ AG-∗” is display of each step.

[CD Aging Mode]

Procedure:

1. Short SL501 by soldering.
2. Turn on the main power. Set a disc on the DISC1 tray. Select CD.
3. Press the SELECT/◁▷ button. The aging mode starts.
4. Aging status appears on the monitor screen.



Monitor Display

1st line	OPEN/CLOSE/CD PLAY display
2nd line	DISC1/DISC1-15/DISC1-1/TIME display
4th line	COUNT : 1 display
5th line	TOTAL ERR : 00 display
6th line	JITTER FF display
3rd line	AGING

How to exit the CD aging mode:

1. Press the I/⏻ and turn off the main power.
2. Remove soldering from SL501.

[Function Change Mode]

* elect either VIDEO or MD of the external FUNCTION input.

Procedure:

1. Turn on the power.
2. Press the two buttons ENTER and I/⏻ at the same time. The main power is turned on and the other function of the previous function is selected and displayed. "MD" or "VIDEO".

[VIDEO CD Color-bars Mode]

On this mode, the data of the color-bars signal as a picture signal and the 1 kHz sine wave signal as a sound signal are output by the mechanism controller (IC502) for the video CD signal check. When measurement of the voltage and waveform on the VIDEO board, perform it in this mode.
For reference, the color-bars signal can be observed at J302 (VIDEO OUT) using an oscilloscope.

Procedure:

1. Short the both ends of the land of SL503 of the VIDEO board.
2. Turn the power on. Press the CD button to select CD.
3. The color-bars appears when the CD is in stop status, and it disappears when the CD goes in play status.
4. After measuring, remove the lead wire connected.VIDEO board (SIDE B)

[CD Servo ON/OFF Mode]

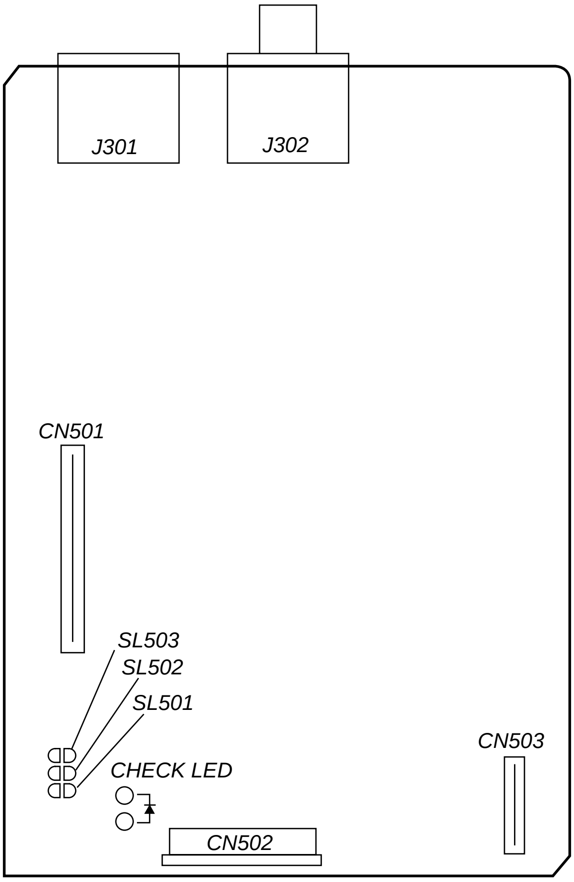
Procedure:

1. Short SL502 on the VIDEO board by soldering.
2. Turn on the main power. Set a disc on the DISC1 tray. Select CD.
3. Press the ◁▷ button to play back CD.
4. When the ▶▶I + button is pressed, 100 track jump is executed.
5. Also, every pressing of the PLAY MODE button triggers between ON and OFF of TRACKING SERVO and SLED SERVO.

How to quit the CD servo ON/OFF mode:

1. Press the I/⏻ button to turn off the main power.
2. Remove soldering from SL502.

VIDEO board (SIDE A)



SECTION 5
MECHANICAL ADJUSTMENTS

Precaution

1. Clean the following parts with a denatured alcohol-moistened swab:

record/playback heads	pinch rollers
erase head	rubber belts
capstan	idlers

2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Mode	Torque meter	Meter reading
FWD	CQ-102C	3.06 N • m to 6.96 N • m 31 to 71 g • cm (0.43 – 0.98 oz • inch)
FWD back tension	CQ-102C	0.19 N • m to 0.58 N • m 2 to 6 g • cm (0.02 – 0.08 oz • inch)
REV	CQ-102RC	3.06 N • m to 6.96 N • m 31 to 71 g • cm (0.43 – 0.98 oz • inch)
REV back tension	CQ-102RC	0.19 N • m to 0.58 N • m 2 to 6 g • cm (0.02 – 0.08 oz • inch)
FF/REW	CQ-201B	6.96 N • m to 14.02 N • m 71 to 143 g • cm (0.98 – 1.99 oz • inch)
FWD tension	CQ-403A	9.80 N • m 100 g or more (3.53 oz or more)
REV tension	CQ-403R	9.80 N • m 100 g or more (3.53 oz or more)

SECTION 6
ELECTRICAL ADJUSTMENTS

DECK SECTION 0 dB=0.775 V

1. Demagnetize the record/playback head with a head demagnetizer.
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjust.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
5. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
6. The adjustments should be performed for both L-CH and R-CH.
7. Switches and controls should be set as follows unless otherwise specified.

- Test Tape

Tape	Signal	Used for
P-4-A100	10 kHz, –10 dB	Azimuth Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment
P-4-L300	315 Hz, 0 dB	Level Adjustment

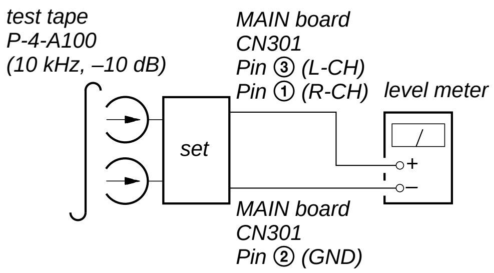
Record/Playback Head Azimuth Adjustment

DECK A **DECK B**

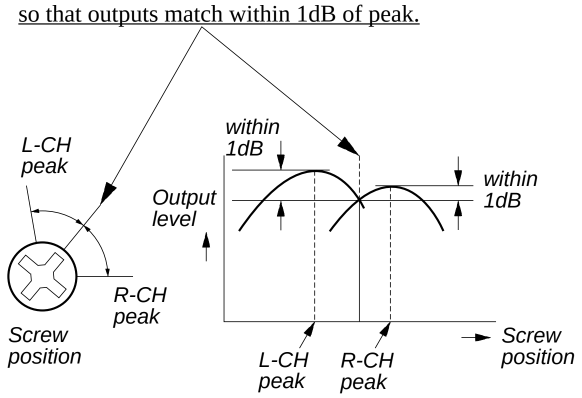
Note: Perform this adjustments for both decks

Procedure:

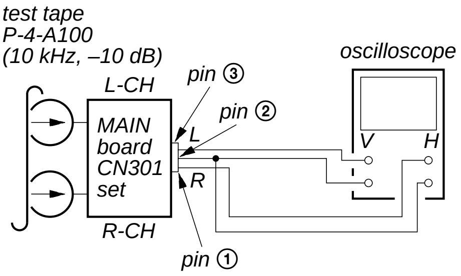
1. Mode: Playback

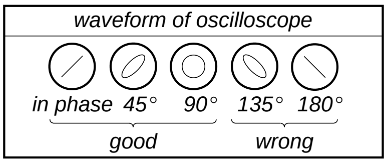


2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1dB of peak.


L-CH peak
within 1dB
Output level
within 1dB
R-CH peak
Screw position
L-CH peak
R-CH peak
Screw position

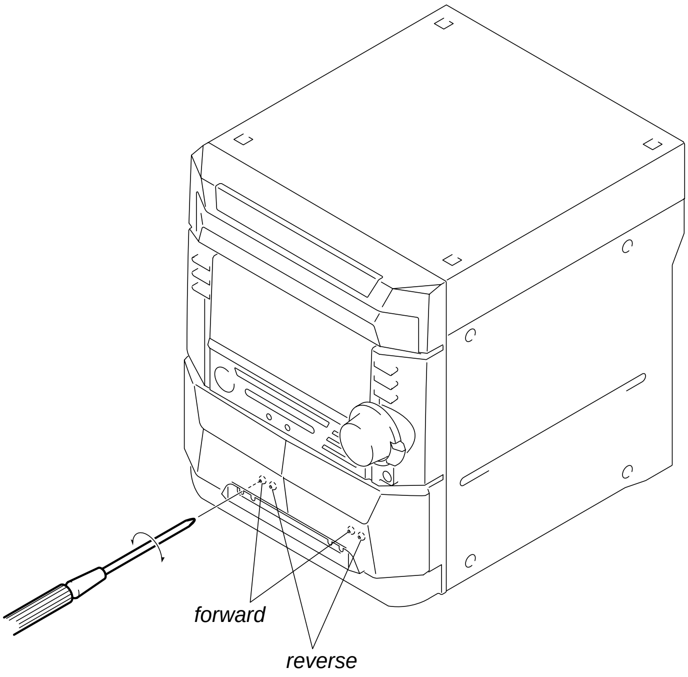
3. Mode: Playback


test tape
P-4-A100
(10 kHz, –10 dB)
L-CH
pin ③
pin ②
oscilloscope
MAIN board CN301 set
L
R
V
H
R-CH
pin ①


waveform of oscilloscope
in phase
45°
90°
135°
180°
good
wrong

4. After the adjustments, apply suitable locking compound to the pats adjusted.

Adjustment Location: Playback Head (Deck A).
Record/Playback/Erase Head (Deck B).


forward
reverse

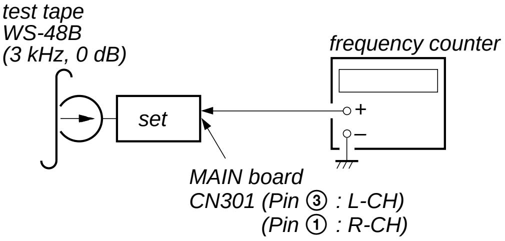
Tape Speed Adjustment DECK B

Note: Start the Tape Speed adjustment as below after setting to the test mode.
In the test mode, the tape speed is high during pressing the CD SYNC HI-DUB button.

Procedure:

1. Turn the power switch on.
2. Press the ■ button, ENTER button and DISC 3 button simultaneously.
   (The “TEST MODE” on the fluorescent indicator tube display while in the test mode.)
   To exit from the test mode, press the I/⏻ button.

Mode: Playback


test tape
WS-48B
(3 kHz, 0 dB)
frequency counter
set
+
–
MAIN board
CN301 (Pin ③ : L-CH)
(Pin ① : R-CH)

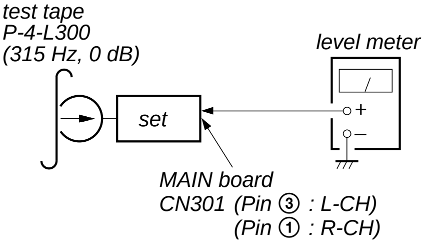
1. Insert the WS-48B into the deck B.
2. Press the ⊲⊳ button on the deck B.
3. Press the CD SYNC HI-DUB button in playback mode.
   Then at HIGH speed mode.
4. Adjust RV1001 on the LEAF SW board do that frequency counter reads 6,000 ± 30 Hz.
5. Press the CD SYNC HI-DUB button.
   Then back to NORMAL speed mode.
6. Adjust RV1002 on the LEAF SW board so that frequency counter reads 3,000 ± 15 Hz.

Adjustment Location: LEAF SW board

Playback level Adjustment DECK A DECK B

Procedure:

Mode: Playback


test tape
P-4-L300
(315 Hz, 0 dB)
level meter
set
+
–
MAIN board
CN301 (Pin ③ : L-CH)
(Pin ① : R-CH)

Deck A is RV302 (L-CH) and RV352 (R-CH), Deck B is RV303 (L-CH) and RV353 (R-CH) so that adjustment within adjustment level as follows.

Adjustment Level:

CN301 PB level: 301.5 to 338.3 mV (–8.2 to –7.2 dB) level difference between the channels: within ±0.5 dB

Adjustment Location: MAIN board

Sample Volue of Wow and Flutter: 0.3% or less W. RMS
(WS-48B)

REC Bias Adjustment DECK B

Procedure:

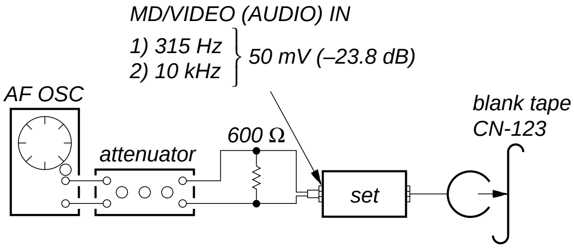
INTRODUCTION

When set to the test mode performed in Tape Speed Adjustment, when the tape is rewound after recording, the "REC memory mode" which rewinds only the recorded portion and playback is set.

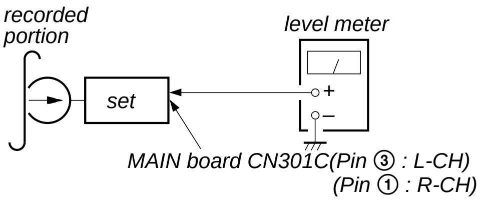
This "REC memory mode" is convenient for performing this adjustment. During recording, the input signal FUNCTION will automatically switch to VIDEO.

(If do not operation of stopped from recording complete, and rotette of shuttle knob then rewind to recording start position.)

1. Press MD(VIDEO) button to select MD. (This step is not necessary if the above test mode has already been set.)
2. Insert a tape into deck B.
3. After press REC PAUSE/START button, press REC PAUSE/START button, then recording start.
4. Mode: Record


MD/VIDEO (AUDIO) IN
1) 315 Hz
2) 10 kHz
50 mV (–23.8 dB)
AF OSC
attenuator
600 Ω
set
blank tape
CN-123

5. Mode: Playback


recorded
portion
set
level meter
+
–
MAIN board CN301C(Pin ③ : L-CH)
(Pin ① : R-CH)

6. Confirm playback the signal recorded in step 3 become adjustable level as follows.
   If these levels do not adjustable level, adjustment the RV304 (L-CH) and RV354 (R-CH) on the MAIN board to repeat steps 4 and 5.

Adjustable level: Playback output of 315 Hz to playback output of 10 kHz: ±1.0 dB

Adjustment Location: MAIN board

REC Level Adjustment DECK B

Procedure:

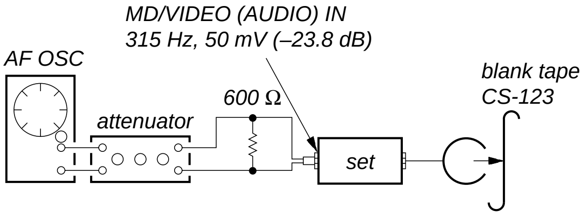
INTRODUCTION

When set to the test mode performed in Tape Speed Adjustment, when the tape is rewound after recording, the "REC memory mode" which rewinds only the recorded portion and playback is set.

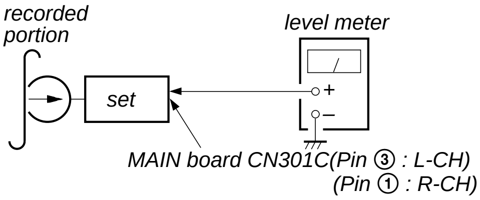
This "REC memory mode" is convenient for performing this adjustment. During recording, the input signal FUNCTION will automatically switch to VIDEO.

(If do not operation of stopped from recording complete, and rotate of shuttle knob then rewind to recording start position.)

1. Press MD(VIDEO) button to select MD. (This step is not necessary if the above test mode has already been set.)
2. Insert a tape into deck B.
3. After press REC PAUSE/START button, press REC PAUSE/START button, then recording start.
4. Mode: Record


MD/VIDEO (AUDIO) IN
315 Hz, 50 mV (–23.8 dB)
AF OSC
attenuator
600 Ω
set
blank tape
CS-123

5. Mode: Playback


recorded
portion
set
level meter
+
–
MAIN board CN301C(Pin ③ : L-CH)
(Pin ① : R-CH)

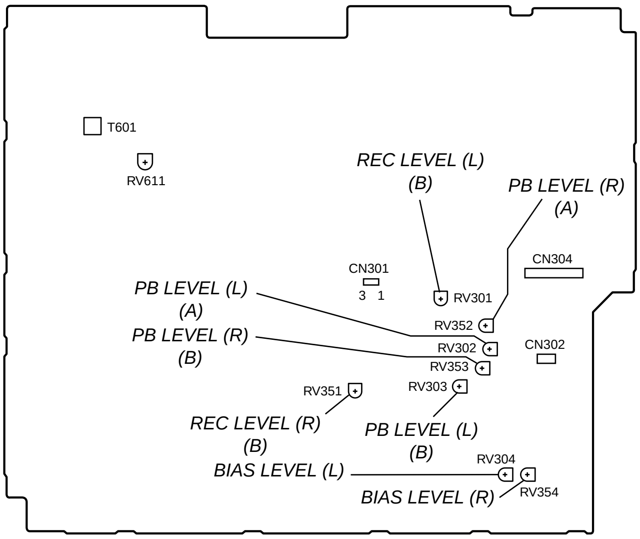
6. Confirm playback the signal recorded in step 3 become adjustable level as follows.
   If these levels do not adjustable level, adjustment the RV301 (L-CH) and RV351 (R-CH) on the MAIN board to repeat steps 4 and 5.

Adjustable level:

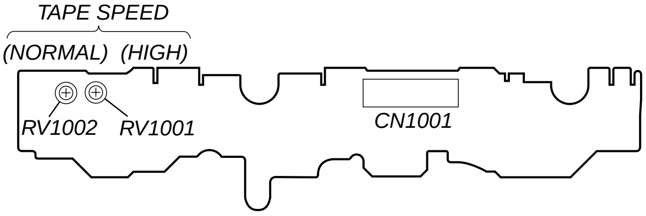
CN301 PB level: 47.2 to 53.0 mV (–24.3 to –23.3 dB)

Adjustment Location: MAIN board

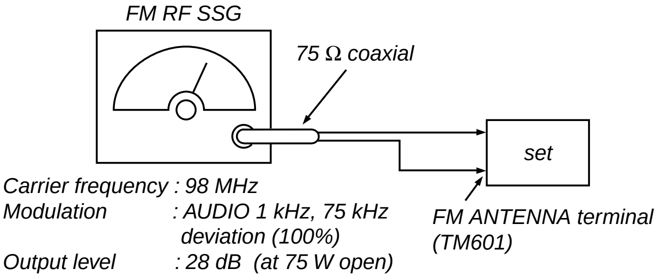
[MAIN BOARD] (Component Side)


T601
RV611
REC LEVEL (L)
(B)
PB LEVEL (R)
(A)
CN304
CN301
3 1
RV301
PB LEVEL (L)
(A)
PB LEVEL (R)
(B)
RV352
RV302
CN302
RV353
RV303
RV351
REC LEVEL (R)
(B)
PB LEVEL (L)
(B)
BIAS LEVEL (L)
RV304
BIAS LEVEL (R)
RV354

[LEAF SW BOARD] (Component Side)


TAPE SPEED
(NORMAL) (HIGH)
RV1002
RV1001
CN1001

FM Tuned Level Adjustment


FM RF SSG
75 Ω coaxial
set
FM ANTENNA terminal
(TM601)

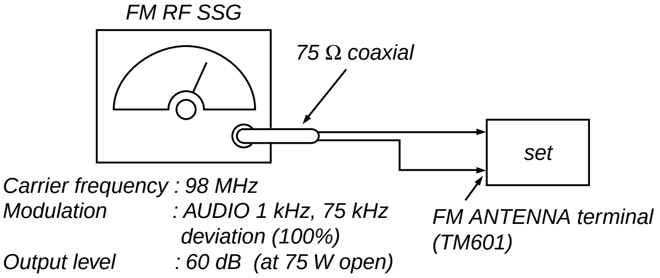
Carrier frequency : 98 MHz
Modulation : AUDIO 1 kHz, 75 kHz deviation (100%)
Output level : 28 dB (at 75 W open)

Procedure:

1. Supply a 28 dB 98 MHz signal from the ANTENNA terminal.
2. Tune the set to 98 MHz.
3. Adjust RV611 to the point (moment) when the TUNED indicator will change from going off to going on.

Adjustment Location: MAIN board

Null Adjustment


FM RF SSG
75 Ω coaxial
set
FM ANTENNA terminal
(TM601)

Carrier frequency : 98 MHz
Modulation : AUDIO 1 kHz, 75 kHz deviation (100%)
Output level : 60 dB (at 75 W open)

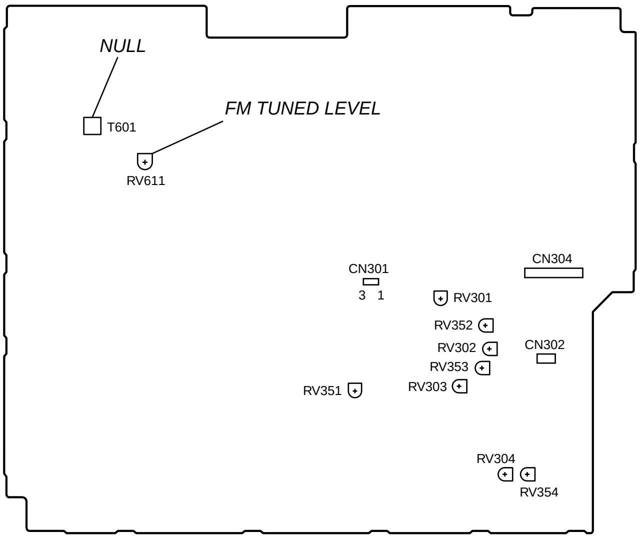
Procedure:

1. Supply a 60 dB 98 MHz signal from the ANTENNA terminal.
2. Tune the set to 98 MHz.
3. Measure voltage between pin 21 of IC 601. Adjust T601 ubtil the voltage becomes 0 V.

Adjustment Location: MAIN board

Adjustment Location

[MAIN BOARD] Component side

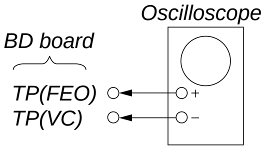

NULL
T601
FM TUNED LEVEL
RV611
CN301
3 1
CN304
RV301
RV352
RV302
CN302
RV353
RV351
RV303
RV304
RV354

CD SECTION

Note :

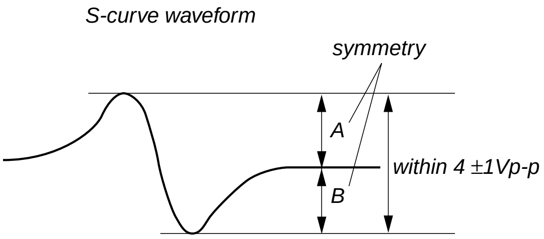
1. CD Block is basically designed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10MΩ impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

S-Curve Check


Oscilloscope
BD board
TP(FEO)
TP(VC)
+
–

Procedure :

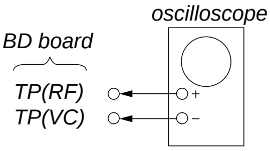
1. Connect oscilloscope to TP (FEO).
2. Connect between TP (FEI) and TP (VC) by lead wire.
3. Connect between TP (AGCCONT) and TP (GND) by lead wire.
4. Turn Power switch on.
5. Load a disc (YEDS-18) and actuate the focus search. (In consequence of open and close the disc tray, actuate the focus search)
6. Confirm that the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 4 ±1 Vp-p.


S-curve waveform
symmetry
A
B
within 4 ±1Vp-p

7. After check, remove the lead wire connected in step 2 and 3.

Note :
- Try to measure several times to make sure than the ratio of A : B or B : A is more than 10 : 7.
- Take sweep time as long as possible and light up the brightness to obtain best waveform.

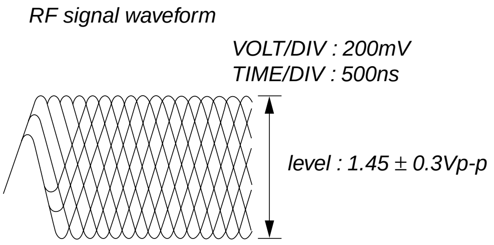
RF Level Check


oscilloscope
BD board
TP(RF)
TP(VC)
+
–

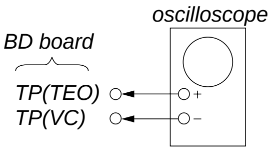
Procedure :

1. Connect oscilloscope to TP (RF).
2. Connect between TP (AGCCONT) and TP (GND) by lead wire.
3. Turned Power switch on.
4. Load a disc (YEDS-18) and playback.
5. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.
6. After check, remove the lead wire connected in step 2.

Note : Clear RF signal waveform means that the shape “ ◊ ” can be clearly distinguished at the center of the waveform.

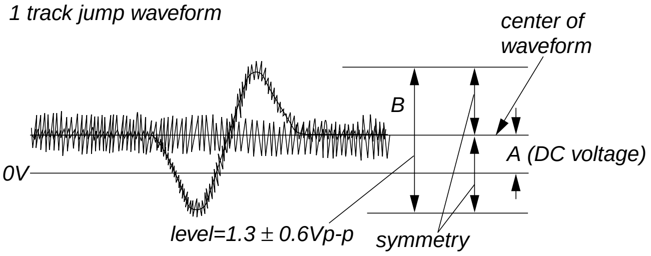


E-F Balance (1 Track jump) Check


oscilloscope
BD board
TP(TEO)
TP(VC)
+
–

Procedure :

1. Connect oscilloscope to TP (TEO) and TP (VC).
2. Turned Power switch on.
3. Load a disc (YEDS-18) and playback the number five track.
4. Press the ▮▮ button. (Becomes the 1 track jump mode.)
5. Confirm that the level B and A (DC voltage) on the oscilloscope waveform.

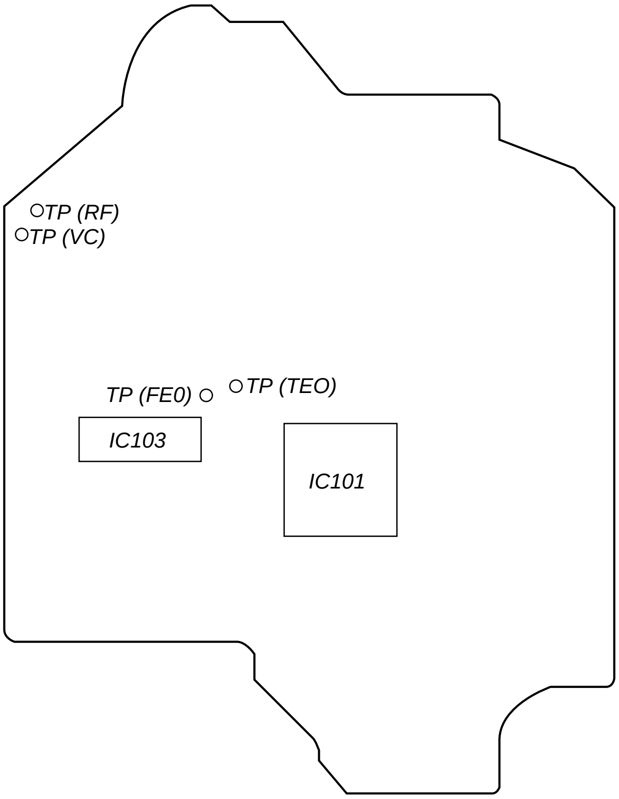


Specified level: $\frac{A}{B} \times 100$=less than ±22%

6. After check, remove the lead wire connected in step 1.

Adjustment Location:

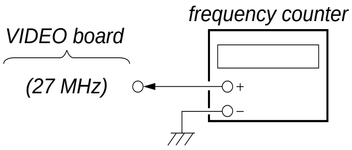
[BD BOARD] (Conductor Side)


TP (RF)
TP (VC)
TP (FE0)
TP (TEO)
IC103
IC101

VIDEO SECTION

Frequency Adjustment

Connection:

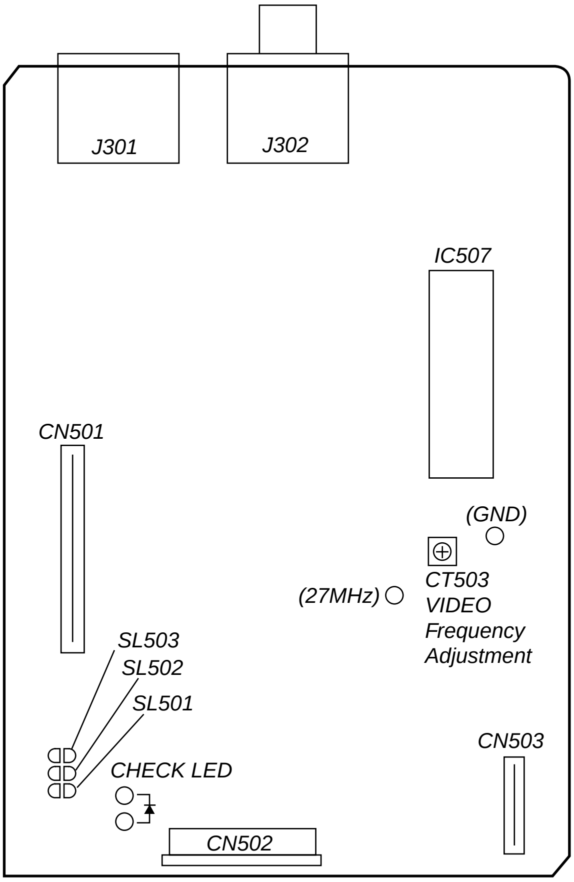

frequency counter
VIDEO board
(27 MHz)
+
–

Procedure:

1. Connect the frequency counter to check point of the VIDEO board.
2. Turned power switch on.
3. Press the CD button to select the CD.
4. Adjust CT503 on the VIDEO board so that the frequency counter reading 27.0 MHz ± 80 Hz at stop status.

Adjustment Location:

[VIDEO BOARD] (Component Side)


J301
J302
IC507
CN501
(GND)
(27MHz)
CT503
VIDEO
Frequency
Adjustment
SL503
SL502
SL501
CHECK LED
CN503
CN502

SECTION 7
DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

Note on Schematic Diagram:

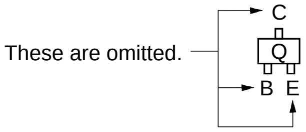
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $^1/_4$ W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

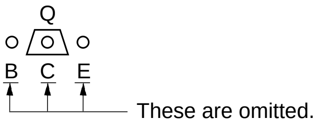
> The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
> Replace only with part number specified.

- B + : B+ Line.
- B – : B– Line.
- ▭ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM
  ➡ : AM
  ⊳ : PB (DECK A)
  ▷ : PB (DECK B)
  ▷» : REC (DECK B)
  ⇏ : CD
  ⇏» : digital out
- Abbreviation
  EA : Saudi Arabia model
  MY : Malaysia model
  SP : Singapore model
  TH : Thai model
  TW : Taiwan model
  IA : Indonesia model
  HK : Hong Kong model
  JE : Tourist model

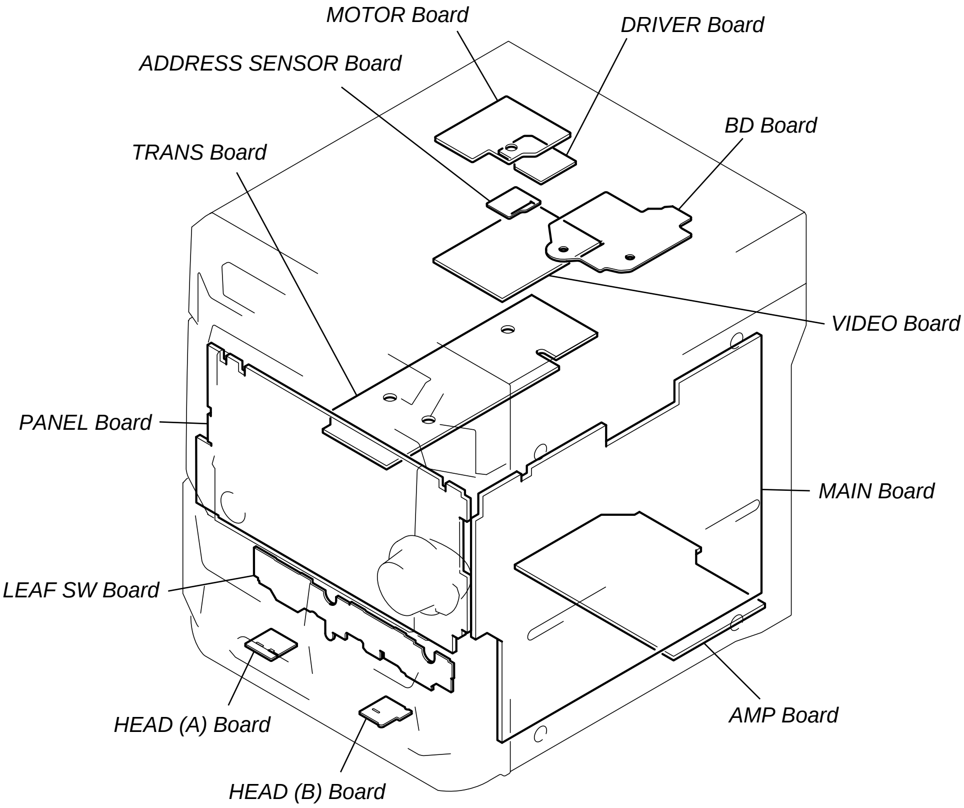
Note on Printed Wiring Boards:

- o—— : parts extracted from the component side.
- ▒ : Pattern from the side which enables seeing.
- Indication of transistor.





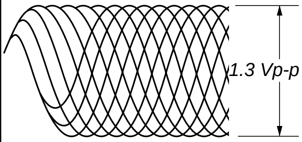
7-1. CIRCUIT BOARD LOCATION


MOTOR Board
DRIVER Board
ADDRESS SENSOR Board
BD Board
TRANS Board
VIDEO Board
PANEL Board
MAIN Board
LEAF SW Board
HEAD (A) Board
AMP Board
HEAD (B) Board

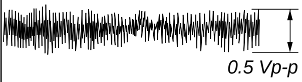
• WAVEFORMS

– BD BOARD –

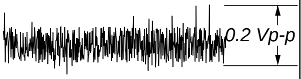
① IC101 ㊿
(RFAC)(CD Play mode)



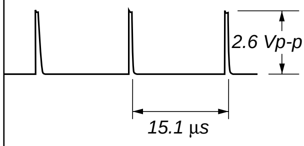
② IC101 ㊶
(TE)(CD Play mode)



③ IC101 ㊴
(FE)(CD Play mode)

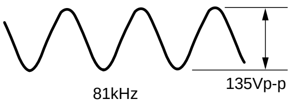


④ IC101 ㉕ (MDP)

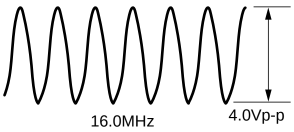


– MAIN BOARD –

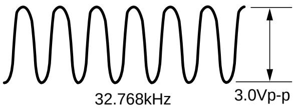
① T301 ④ REC MODE



② IC401 ⑬ STOP MODE

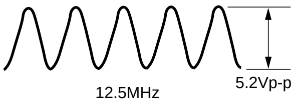


③ IC401 ⑪ STOP MODE



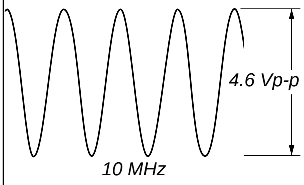
– PANEL BOARD –

① IC601 (91) STOP MODE

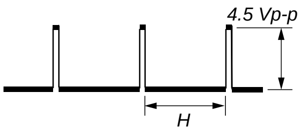


– VIDEO BOARD –

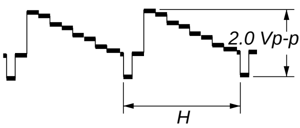
① IC502 ⑬ (XOUT)



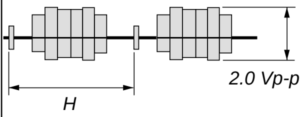
② IC502 ㉖ (BGP)



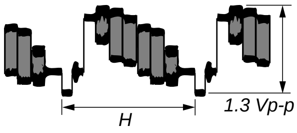
③ J301 ④ (YOUT)



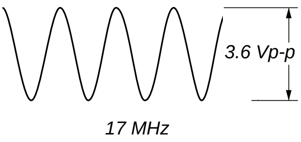
④ J301 ③ (COUT)



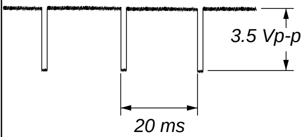
⑤ J302 (VIDEO OUT)



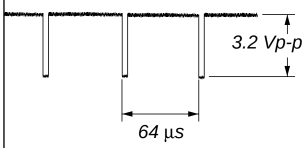
⑥ IC505 (86) (DA-XCLK)



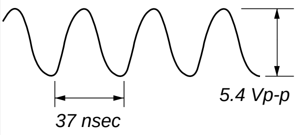
⑦ IC505 (93) (VSYNC)



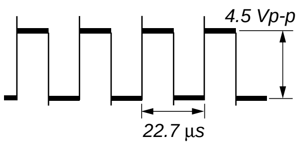
⑧ IC505 (101) (HSYNC)



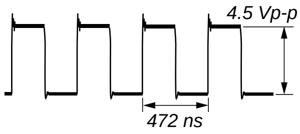
⑨ IC505 (106) (VCK-IN)



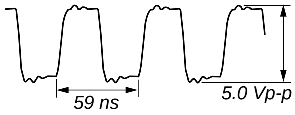
⑩ IC505 (108) (DA-LRCK)



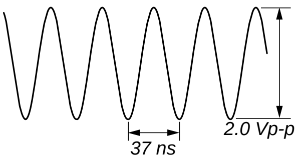
⑪ IC505 (111) (DA-BCK)



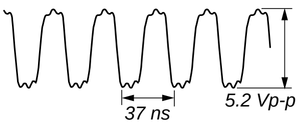
⑫ IC509 ⑳ (384FSO)



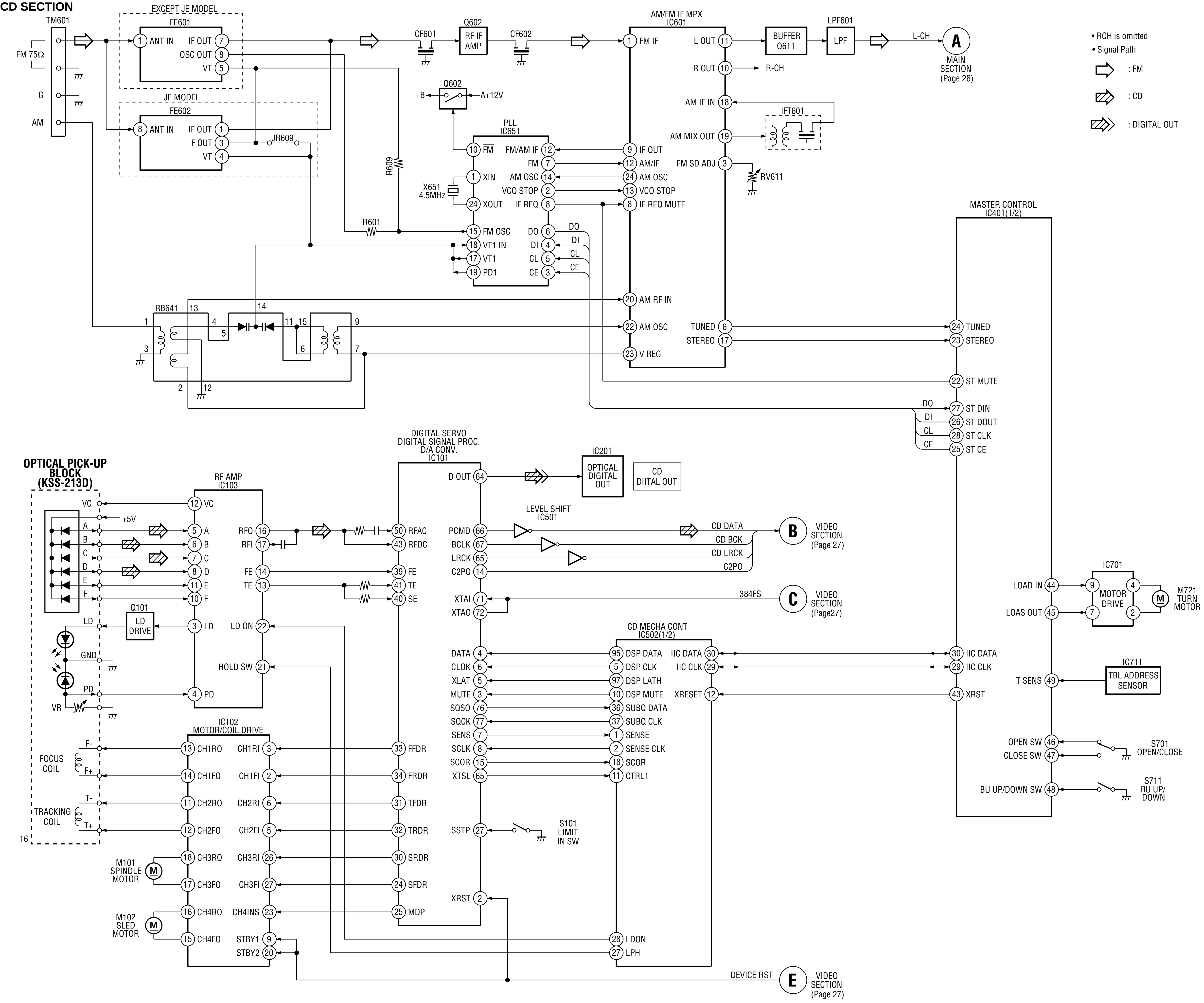
⑬ IC509 ㉔ (XT2)



⑭ IC509 ④ (MCKO)

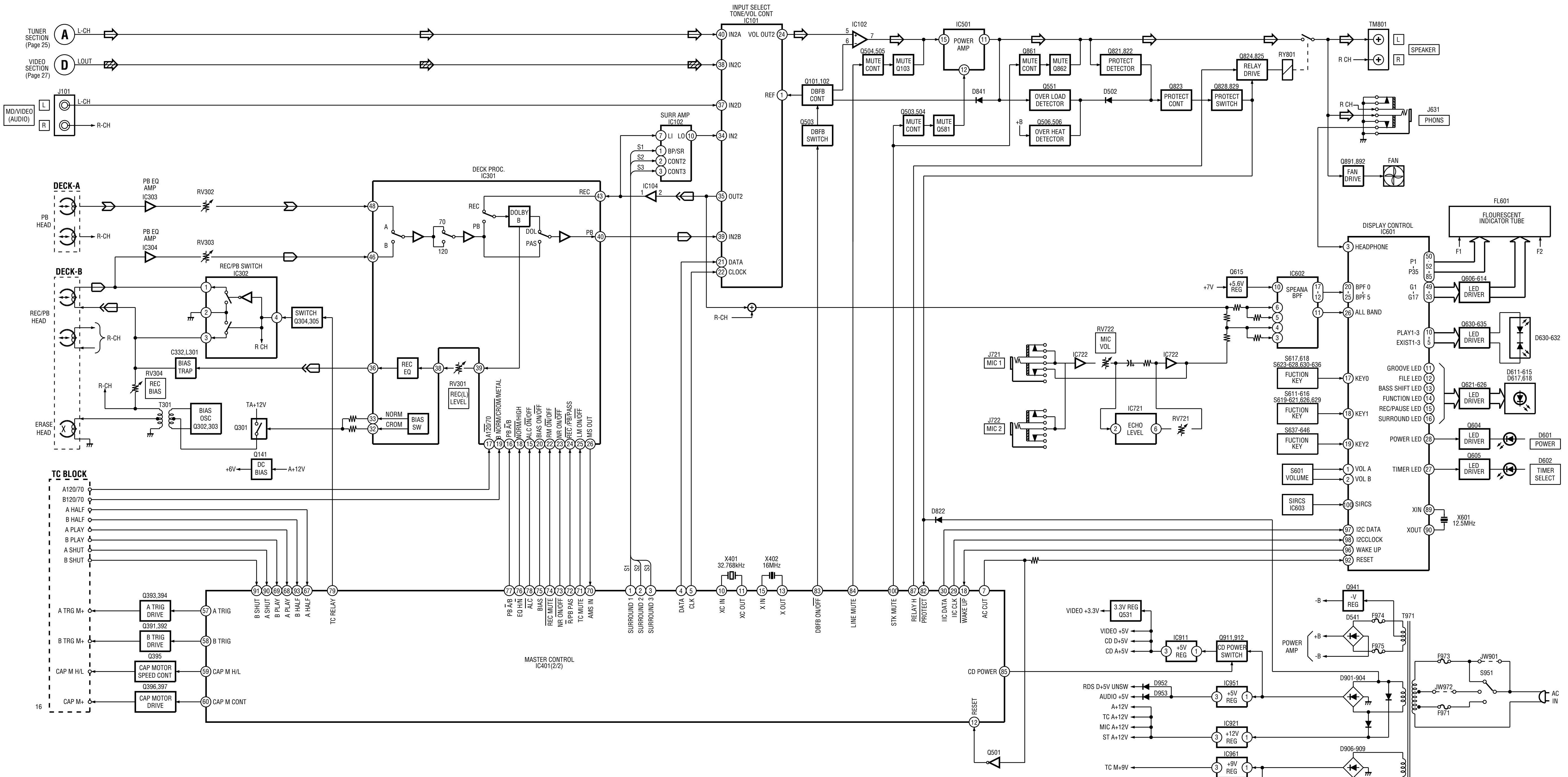


7-2. BLOCK DIAGRAMS
TUNER/CD SECTION


TM601
FM 75Ω
G
AM
EXCEPT JE MODEL
FE601
ANT IN
IF OUT
OSC OUT
VT
JE MODEL
FE602
ANT IN
IF OUT
F OUT
VT
JR609
R609
R601
CF601
Q602
RF IF AMP
CF602
Q602
+B
A+12V
PLL
IC651
FM
FM/AM IF
XIN
XOUT
X651
4.5MHz
FM OSC
VT1 IN
VT1
PD1
DO
DI
CL
CE
VCO STOP
IF REQ
AM OSC
AM/FM IF MPX
IC601
FM IF
L OUT
R OUT
R-CH
AM IF IN
AM MIX OUT
FM SD ADJ
IF OUT
AM/IF
AM OSC
VCO STOP
IF REQ MUTE
AM RF IN
AM OSC
V REG
TUNED
STEREO
IFT601
RV611
BUFFER
Q611
LPF601
LPF
L-CH
A
MAIN SECTION
(Page 26)
• RCH is omitted
• Signal Path
: FM
: CD
: DIGITAL OUT
RB641
MASTER CONTROL
IC401(1/2)
TUNED
STEREO
ST MUTE
ST DIN
ST DOUT
ST CLK
ST CE
LOAD IN
LOAS OUT
IIC DATA
IIC CLK
XRST
T SENS
OPEN SW
CLOSE SW
BU UP/DOWN SW
IC701
MOTOR DRIVE
M721
TURN MOTOR
IC711
TBL ADDRESS SENSOR
S701
OPEN/CLOSE
S711
BU UP/
DOWN
OPTICAL PICK-UP
BLOCK
(KSS-213D)
VC
+5V
A
B
C
D
E
F
LD
GND
PD
VR
FOCUS COIL
F-
F+
TRACKING COIL
T-
T+
Q101
LD DRIVE
RF AMP
IC103
VC
RFO
RFI
FE
TE
LD
LD ON
HOLD SW
PD
DIGITAL SERVO
DIGITAL SIGNAL PROC.
D/A CONV.
IC101
D OUT
RFAC
RFDC
FE
TE
SE
PCMD
BCLK
LRCK
C2PO
XTAI
XTAO
DATA
CLOK
XLAT
MUTE
SQSO
SQCK
SENS
SCLK
SCOR
XTSL
SSTP
XRST
FFDR
FRDR
TFDR
TRDR
SRDR
SFDR
MDP
IC201
OPTICAL DIGITAL OUT
CD
DIITAL OUT
LEVEL SHIFT
IC501
CD DATA
CD BCK
CD LRCK
C2PO
B
VIDEO SECTION
(Page 27)
384FS
C
VIDEO SECTION
(Page27)
CD MECHA CONT
IC502(1/2)
DSP DATA
DSP CLK
DSP LATH
DSP MUTE
SUBQ DATA
SUBQ CLK
SENSE
SENSE CLK
SCOR
CTRL1
LDON
LPH
IIC DATA
IIC CLK
XRESET
S101
LIMIT
IN SW
IC102
MOTOR/COIL DRIVE
CH1RO
CH1FO
CH2RO
CH2FO
CH3RO
CH3FO
CH4RO
CH4FO
CH1RI
CH1FI
CH2RI
CH2FI
CH3RI
CH3FI
CH4INS
STBY1
STBY2
M101
SPINDLE MOTOR
M102
SLED MOTOR
DEVICE RST
E
VIDEO SECTION
(Page 27)

HCD-VX33

MAIN SECTION


TUNER SECTION (Page 25)
VIDEO SECTION (Page 27)
MD/VIDEO (AUDIO)
J101
L-CH
R-CH
LOUT
INPUT SELECT TONE/VOL CONT IC101
IN2A
IN2C
IN2D
IN2
OUT2
IN2B
VOL OUT2
REF
DATA
CLOCK
IC102
IC501 POWER AMP
Q504,505 MUTE CONT
MUTE Q103
Q101,102 DBFB CONT
Q503 DBFB SWITCH
Q503,504 MUTE CONT
MUTE Q581
D841
Q861 MUTE CONT
MUTE Q862
Q821,822 PROTECT DETECTOR
Q551 OVER LOAD DETECTOR
Q506,506 OVER HEAT DETECTOR
D502
Q823 PROTECT CONT
Q828,829 PROTECT SWITCH
Q824,825 RELAY DRIVE
RY801
TM801
SPEAKER
J631 PHONS
Q891,892 FAN DRIVE
FAN
SURR AMP IC102
BP/SR
CONT2
CONT3
S1
S2
S3
IC104
DECK PROC. IC301
DOLBY B
REC
PB
DOL
PAS
DECK-A
DECK-B
PB HEAD
PB EQ AMP IC303
PB EQ AMP IC304
RV302
RV303
REC/PB SWITCH IC302
SWITCH Q304,305
REC/PB HEAD
C332,L301 BIAS TRAP
RV304 REC BIAS
T301
BIAS OSC Q302,303
TA+12V
Q301
Q141 DC BIAS
ERASE HEAD
REC EQ
RV301 REC(L) LEVEL
NORM
CROM
BIAS SW
TC BLOCK
A120/70
B120/70
A HALF
B HALF
A PLAY
B PLAY
A SHUT
B SHUT
A TRG M+
B TRG M+
CAP M H/L
CAP M+
Q393,394 A TRIG DRIVE
Q391,392 B TRIG DRIVE
Q395 CAP MOTOR SPEED CONT
Q396,397 CAP MOTOR DRIVE
MASTER CONTROL IC401(2/2)
TC RELAY
PB A/B
EQ H/N
NORM/HIGH
ALC ON/OFF
BIAS ON/OFF
REC MUTE
NR ON/OFF
R/PB PAS
REC /PB/PASS
TC MUTE
LM ON/OFF
AMS IN
SURROUND 1
SURROUND 2
SURROUND 3
X401 32.768kHz
X402 16MHz
XC IN
XC OUT
X IN
X OUT
DBFB ON/OFF
LINE MUTE
STK MUTE
RELAY H
PROTECT
IIC DATA
IIC CLK
WAKE UP
AC CUT
CD POWER
RESET
Q501
DISPLAY CONTROL IC601
FL601 FLOURESCENT INDICATOR TUBE
HEADPHONE
Q615 +5.6V REG
IC602 SPEANA BPF
BPF 0
BPF 5
ALL BAND
J721 MIC 1
J722 MIC 2
IC722
RV722 MIC VOL
IC721 ECHO LEVEL
RV721
S617,618 S623-628,630-636 FUCTION KEY
S611-616 S619-621,626,629 FUCTION KEY
S637-646 FUCTION KEY
KEY0
KEY1
KEY2
S601 VOLUME
VOL A
VOL B
SIRCS IC603
D822
I2C DATA
I2CCLOCK
WAKE UP
RESET
Q606-614 LED DRIVER
Q630-635 LED DRIVER
D630-632
PLAY1-3
EXIST1-3
GROOVE LED
FILE LED
BASS SHIFT LED
FUNCTION LED
REC/PAUSE LED
SURROUND LED
Q621-626 LED DRIVER
D611-615 D617,618
POWER LED
Q604 LED DRIVER
D601 POWER
TIMER LED
Q605 LED DRIVER
D602 TIMER SELECT
X601 12.5MHz
XIN
XOUT
Q941 -V REG
D541
F974
T971
POWER AMP
F975
3.3V REG Q531
VIDEO +3.3V
VIDEO +5V
CD D+5V
CD A+5V
IC911 +5V REG
Q911,912 CD POWER SWITCH
F973
JW901
S951
JW972
F971
AC IN
D901-904
D952
D953
RDS D+5V UNSW
AUDIO +5V
IC951 +5V REG
A+12V
TC A+12V
MIC A+12V
ST A+12V
IC921 +12V REG
D906-909
TC M+9V
IC961 +9V REG
CD M+7V
LED +7V
IC931 +7V REG
F1
F2

• RCH is omitted
• Signal Path

⊳ : PB (DECK A)

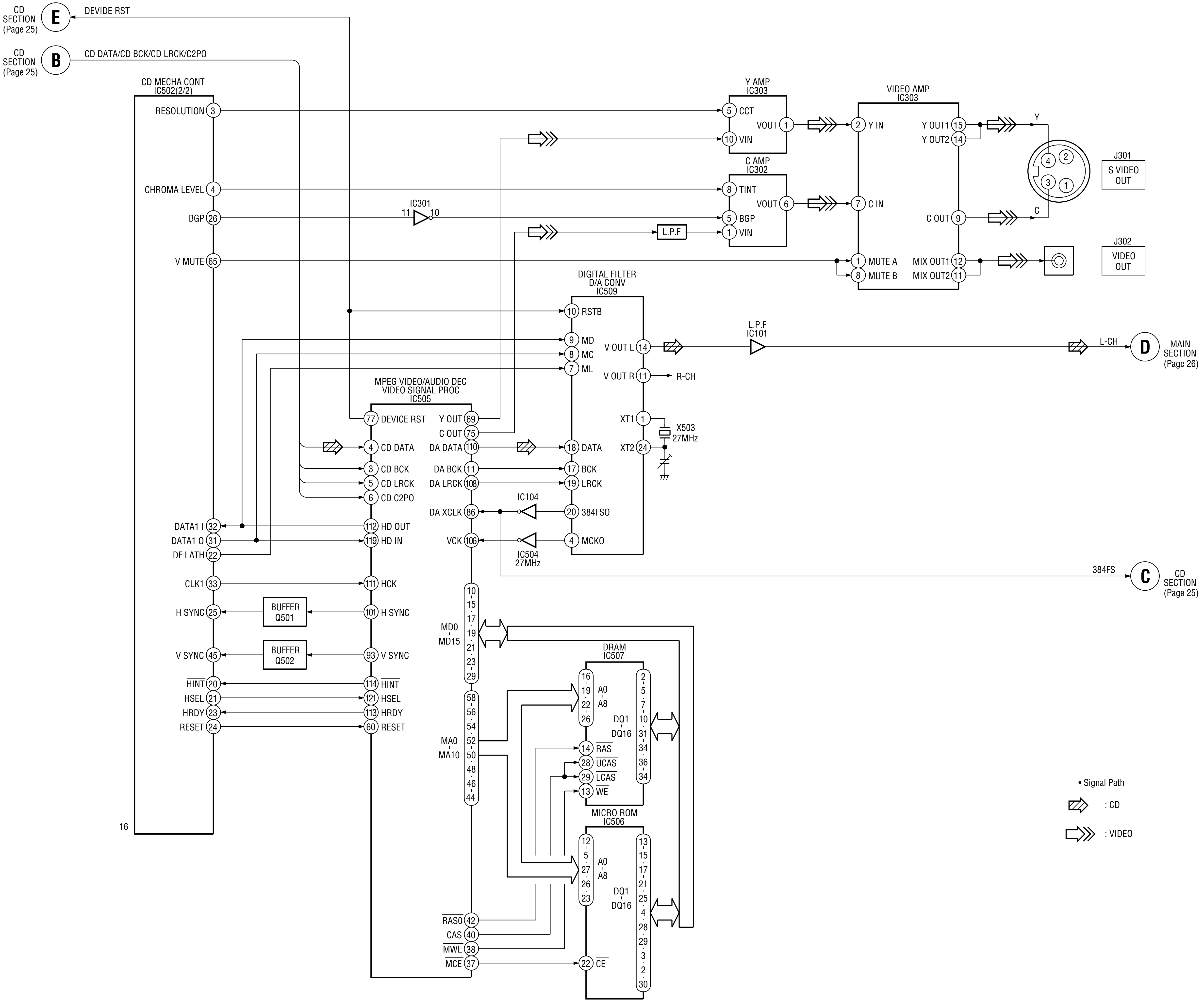
▭ : PB (DECK B)

⊳ : REC (DECK B)

⇨ : FM

⇨ : CD

VIDEO CD SECTION

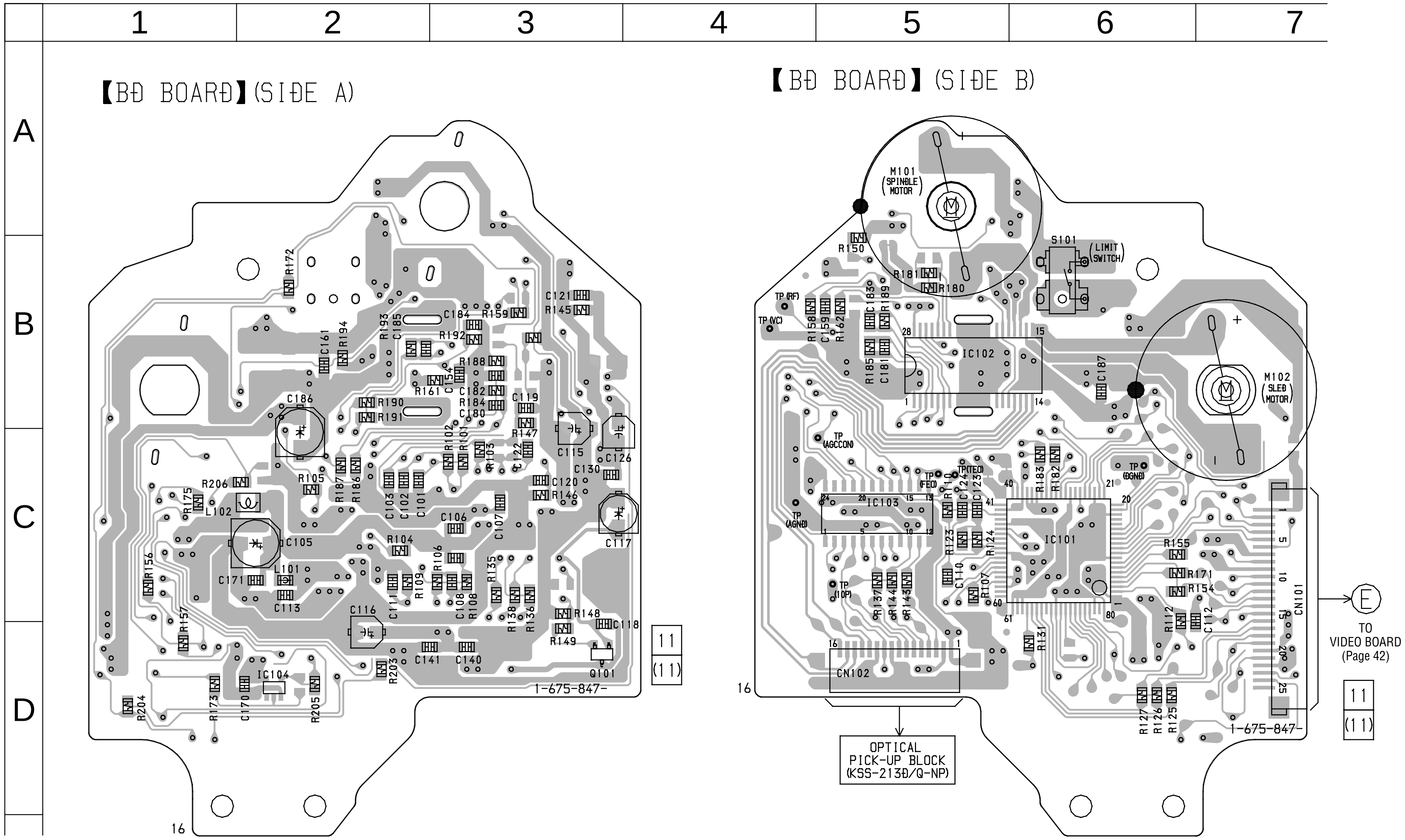

CD SECTION (Page 25)
E
DEVIDE RST
CD SECTION (Page 25)
B
CD DATA/CD BCK/CD LRCK/C2PO
CD MECHA CONT IC502(2/2)
RESOLUTION 3
CHROMA LEVEL 4
BGP 26
V MUTE 65
DATA1 I 32
DATA1 O 31
DF LATH 22
CLK1 33
H SYNC 25
V SYNC 45
HINT 20
HSEL 21
HRDY 23
RESET 24
16
IC301
11
10
BUFFER Q501
BUFFER Q502
MPEG VIDEO/AUDIO DEC VIDEO SIGNAL PROC IC505
77 DEVICE RST
4 CD DATA
3 CD BCK
5 CD LRCK
6 CD C2PO
112 HD OUT
119 HD IN
111 HCK
101 H SYNC
93 V SYNC
114 HINT
121 HSEL
113 HRDY
60 RESET
Y OUT 69
C OUT 75
DA DATA 110
DA BCK 11
DA LRCK 108
DA XCLK 86
VCK 106
IC104
IC504 27MHz
MD0 · MD15
10 15 17 19 21 23 29
MA0 · MA10
58 56 54 52 50 48 46 44
RAS0 42
CAS 40
MWE 38
MCE 37
Y AMP IC303
5 CCT
10 VIN
VOUT 1
C AMP IC302
8 TINT
5 BGP
1 VIN
VOUT 6
L.P.F
VIDEO AMP IC303
2 Y IN
7 C IN
1 MUTE A
8 MUTE B
Y OUT1 15
Y OUT2 14
C OUT 9
MIX OUT1 12
MIX OUT2 11
Y
C
4 2 3 1
J301 S VIDEO OUT
J302 VIDEO OUT
DIGITAL FILTER D/A CONV IC509
10 RSTB
9 MD
8 MC
7 ML
18 DATA
17 BCK
19 LRCK
20 384FSO
4 MCKO
V OUT L 14
V OUT R 11
R-CH
XT1 1
XT2 24
X503 27MHz
L.P.F IC101
L-CH
D
MAIN SECTION (Page 26)
384FS
C
CD SECTION (Page 25)
DRAM IC507
16 19 22 26
A0 · A8
14 RAS
28 UCAS
29 LCAS
13 WE
DQ1 · DQ16
2 5 7 10 31 34 36 34
MICRO ROM IC506
12 5 27 26 23
A0 · A8
22 CE
DQ1 · DQ16
13 15 17 21 25 4 28 29 3 2 30
• Signal Path
: CD
: VIDEO

7-3. PRINTED WIRING BOARD BD SECTION

• See page page 23 for Circuit Boards Location.

- **Semiconductor Location**

Ref. No.	Location
IC101	C-6
IC102	B-5
IC103	C-5
IC104	D-2
Q101	D-3


1
2
3
4
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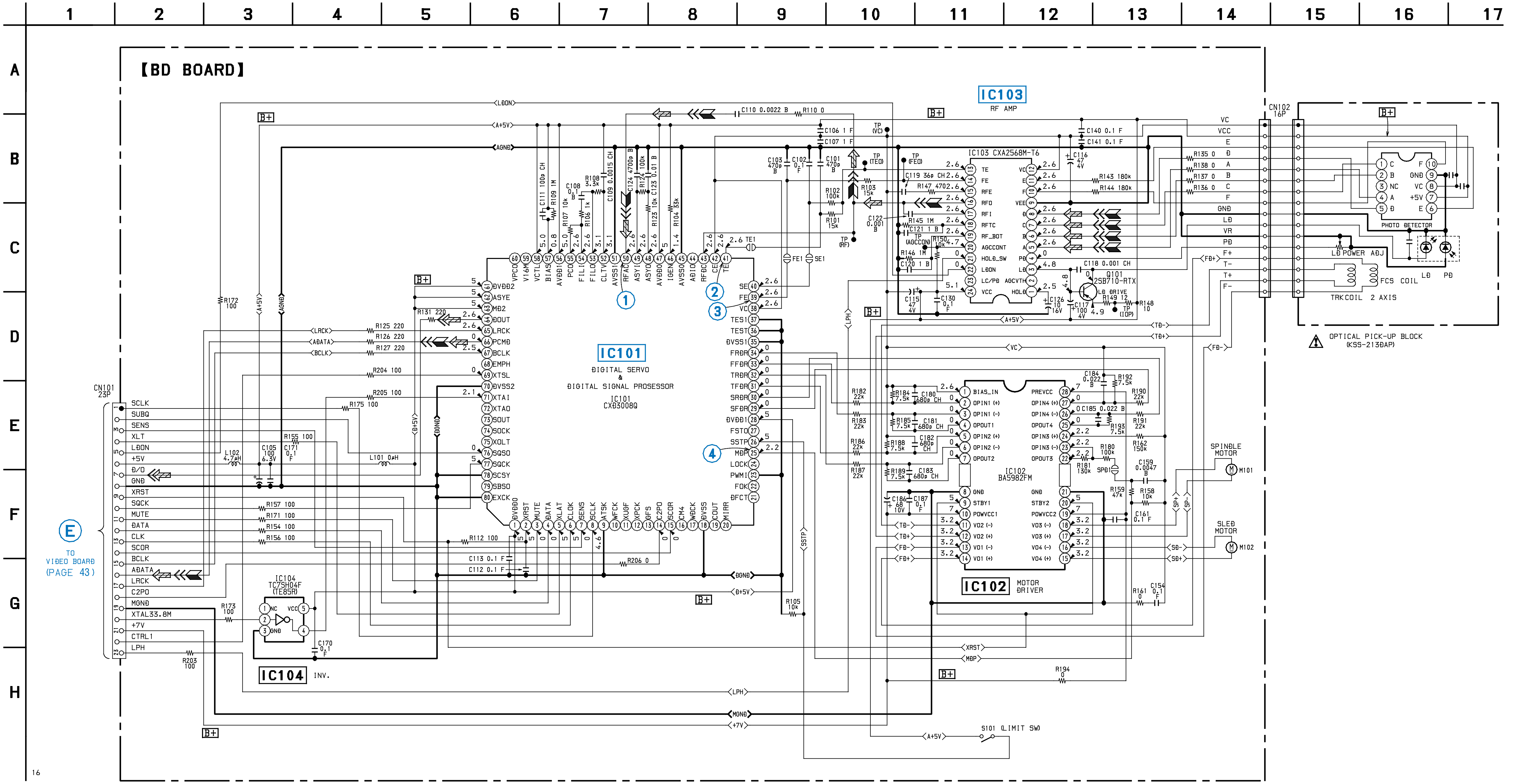
6
7
A
B
C
D
【BD BOARD】(SIDE A)
【BD BOARD】(SIDE B)
IC101
IC102
IC103
IC104
Q101
CN101
CN102
M101 (SPINDLE MOTOR)
M102 (SLED MOTOR)
S101 (LIMIT SWITCH)
TP (RF)
TP (VC)
TP (AGCCON)
TP (FEO)
TP (TEO)
TP (AGND)
TP (DGND)
TP (IOP)
L101
L102
1-675-847-
11
(11)
16
E
TO VIDEO BOARD (Page 42)
OPTICAL PICK-UP BLOCK (KSS-213D/Q-NP)

7-4. SCHEMATIC DIAGRAM BD SECTION

- See page 24 for Waveforms.
- See page 50 for IC Block Diagrams.


【BD BOARD】
IC103
RF AMP
IC103 CXA2568M-T6
IC101
DIGITAL SERVO
&
DIGITAL SIGNAL PROCESSOR
IC101
CXD3008Q
IC102
MOTOR
DRIVER
IC102
BA5982FM
IC104
INV.
IC104
TC7SH04F
(TE85R)
CN101
23P
CN102
16P
E
TO
VIDEO BOARD
(PAGE 43)
OPTICAL PICK-UP BLOCK
(KSS-213DAP)
PHOTO DETECTOR
LD POWER ADJ
FCS COIL
TRK COIL 2 AXIS
SPINDLE
MOTOR
M101
SLED
MOTOR
M102
S101 (LIMIT SW)
Q101
2SB710-RTX
LD DRIVE
SCLK
SUBQ
SENS
XLT
LDON
+5V
D/O
GND
XRST
SQCK
MUTE
DATA
CLK
SCOR
BCLK
ADATA
LRCK
C2PO
MGND
XTAL33.8M
+7V
CTRL1
LPH

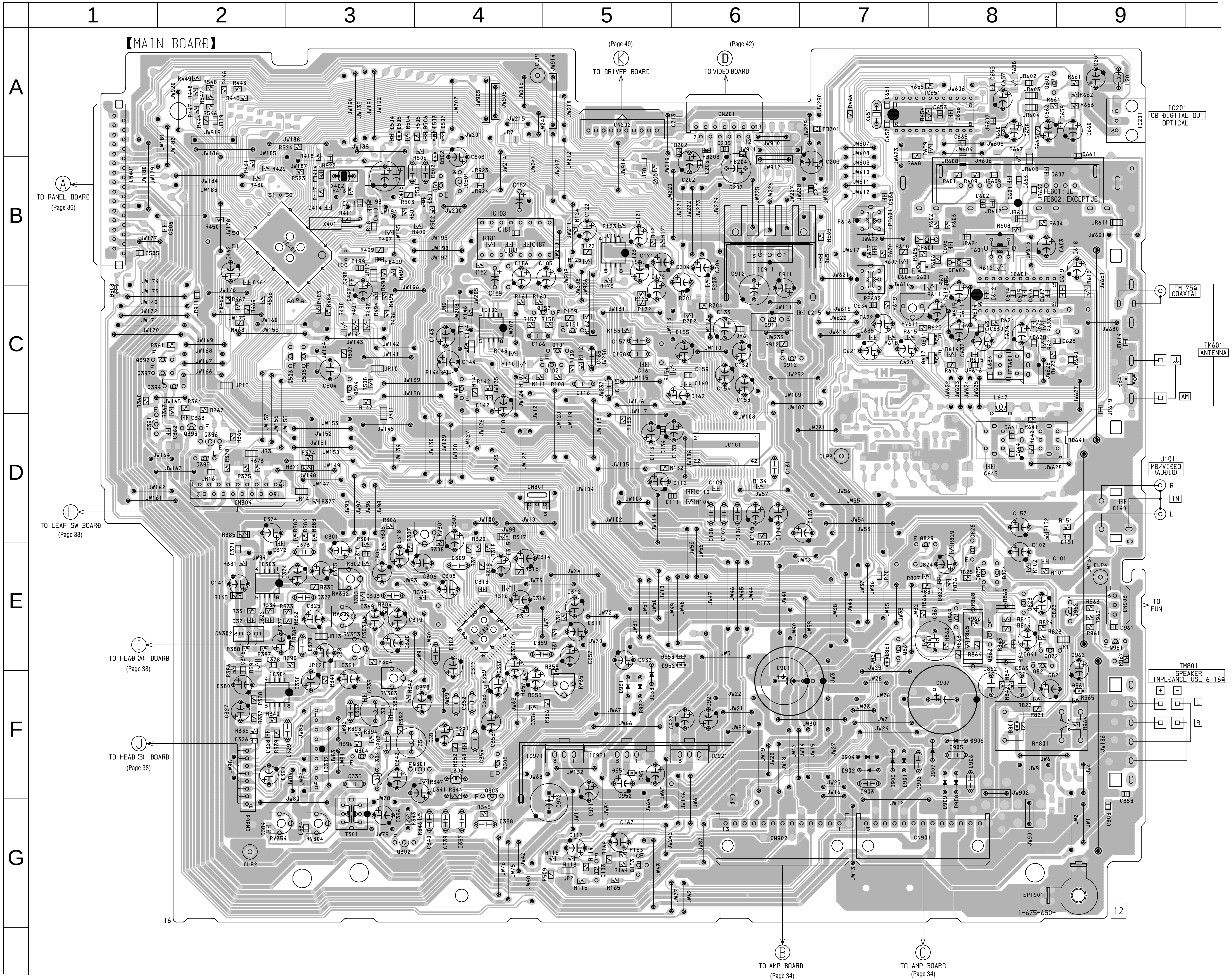
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

7-5. PRINTED WIRING BOARD MAIN SECTION

- See page page 23 for Circuit Boards Location.

- **Semiconductor**

Ref. No.	Location
D501	B-4
D502	A-4
D503	A-4
D504	A-3
D505	A-3
D506	A-4
D508	C-1
D511	B-1
D601	B-8
D641	C-9
D651	B-7
D822	E-8
D841	E-8
D861	E-7
D901	F-7
D902	F-7
D903	F-7
D904	F-7
D906	F-8
D907	F-8
D908	F-8
D909	F-8
D931	F-5
D932	F-5
D933	F-5
D951	F-5
D952	E-6
D953	E-6
D961	F-9
IC101	D-6
IC102	C-4
IC103	B-4
IC104	B-5
IC201	A-9
IC301	E-4
IC302	F-3
IC303	E-2
IC304	F-3
IC401	B-3
IC501	B-4
IC601	C-8
IC651	A-8
IC911	B-6
IC921	F-6
IC951	F-5
IC971	F-4
Q101	D-6
Q102	C-5
Q103	G-5
Q141	C-4
Q301	F-4
Q302	G-4
Q304	F-3
Q391	D-2
Q392	C-2
Q393	D-2
Q394	C-2
Q395	D-2
Q396	D-2
Q397	C-1
Q504	C-3
Q601	B-7
Q611	C-7
Q612	C-7
Q821	E-8
Q822	E-8
Q824	D-8
Q825	D-8
Q828	D-8
Q861	E-7


1
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7
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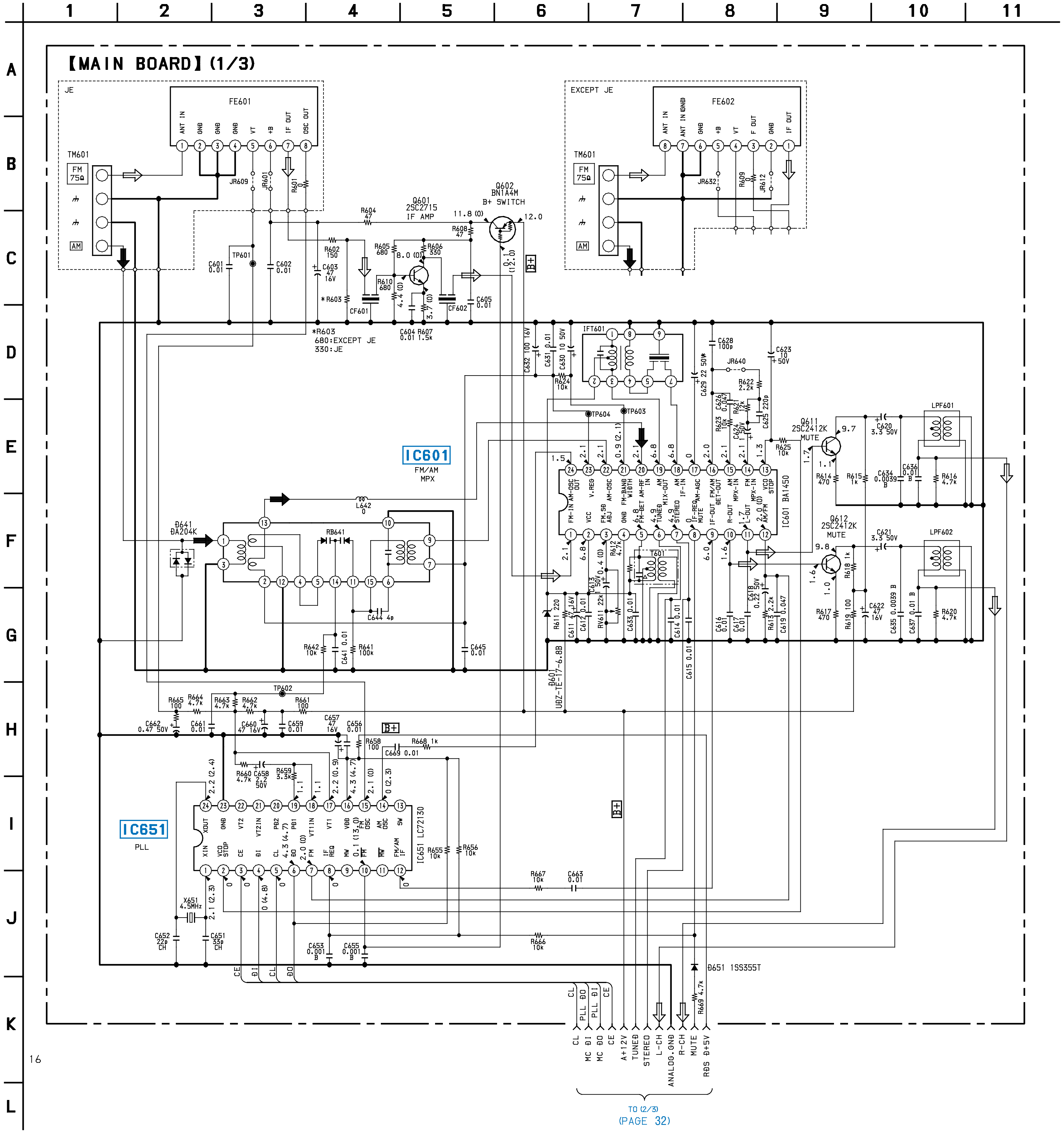
9
A
B
C
D
E
F
G
【MAIN BOARD】
(Page 40)
K
TO DRIVER BOARD
(Page 42)
D
TO VIDEO BOARD
IC201
CD DIGITAL OUT
OPTICAL
A
TO PANEL BOARD
(Page 36)
FE601 : JE
FE602 : EXCEPT JE
FM 75Ω
COAXIAL
TM601
ANTENNA
AM
J101
MD/VIDEO
(AUDIO)
R
IN
L
H
TO LEAF SW BOARD
(Page 38)
TO
FUN
I
TO HEAD (A) BOARD
(Page 38)
TM801
SPEAKER
IMPEDANCE USE 6-16Ω
+
-
L
R
J
TO HEAD (B) BOARD
(Page 38)
CN902
CN901
EPT901
1-675-650-
12
16
B
TO AMP BOARD
(Page 34)
C
TO AMP BOARD
(Page 34)

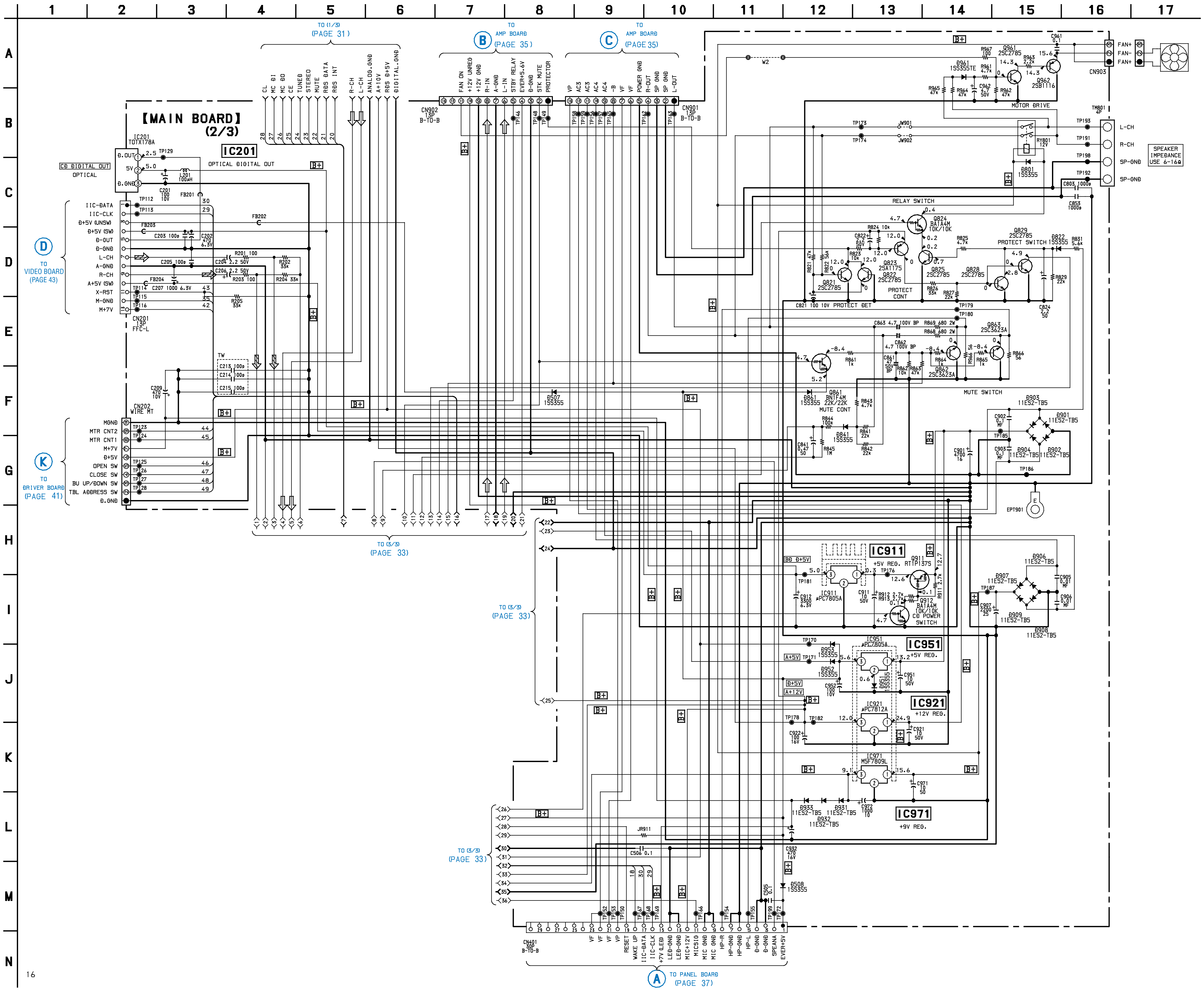
7-6. SCHEMATIC DIAGRAM MAIN SECTION (1/3)

• See page 52 for IC Block Diagrams.

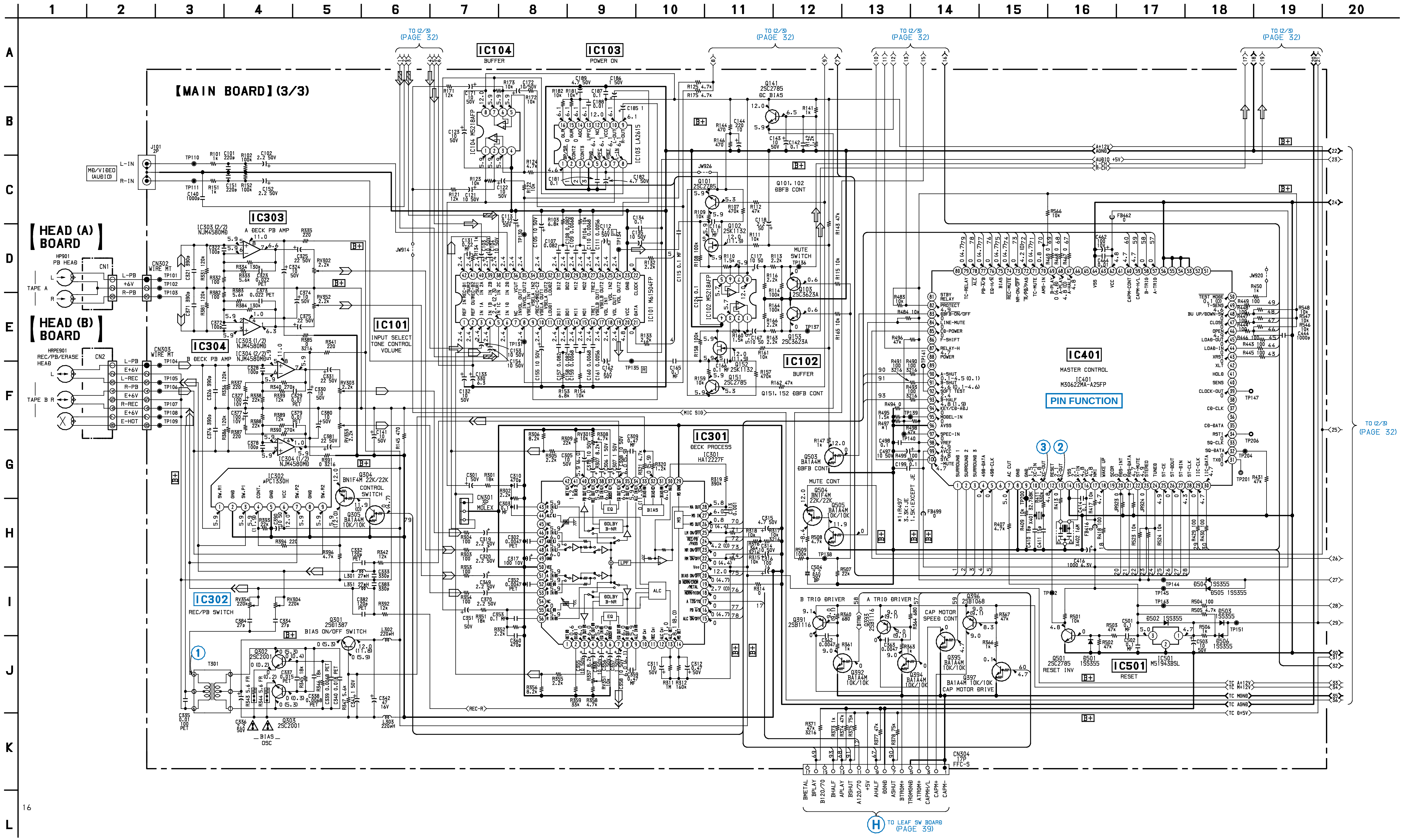

1 2 3 4 5 6 7 8 9 10 11
A B C D E F G H I J K L
【MAIN BOARD】(1/3)
JE
FE601
ANT IN
GND
VT
+B
IF OUT
OSC OUT
TM601
FM 75Ω
AM
JR609
JR601
R601
EXCEPT JE
FE602
JR632
R609
JR612
Q601 2SC2715 IF AMP
Q602 BN1A4M B+ SWITCH
R604 47
R602 150
R605 680
R606 330
R608 47
R610 680
C601 0.01
C602 0.01
C603 47 16V
C604 0.01
R607 1.5k
C605 0.01
CF601
CF602
TP601
*R603
*R603 680:EXCEPT JE 330:JE
B+
IFT601
C628 100p
C623 10 50V
JR640
R622 2.2k
TP604
TP603
IC601 FM/AM MPX
IC601 BA1450
Q611 2SC2412K MUTE
Q612 2SC2412K MUTE
LPF601
LPF602
C620 3.3 50V
C621 3.3 50V
R614 470
R615 1k
R616 4.7k
R617 470
R618 1k
R619 100
R620 4.7k
R625 10k
C634 0.0039 B
C635 0.0039 B
C636 0.01 B
C637 0.01 B
C622 47 16V
D641 DA204K
L642 0
RB641
C644 4p
R642 10k
C641 0.01
R641 100k
C645 0.01
T601
R611 220
R612 4.7k
R613 560
R661 22k
C611
C612 0.01
C613
C614 0.01
C615 0.01
C616 0.01
C617 0.01
C618 0.22 50V
C619 0.047
C624 50V
C625 220p
C626 0.047
C627
C629 22 50V
C630 10 50V
C631 0.01
C632 100 16V
C633 0.01
R623 10k
R624 10k
R621 12k
D601 UDZ-TE-17-6.8B
TP602
R665 100
R664 4.7k
R663 4.7k
R662 4.7k
R661 100
C662 0.47 50V
C661 0.01
C660 47 16V
C659 0.01
C657 47 16V
C656 0.01
R658 100
R668 1k
C669 0.01
R660 4.7k
C658 2.2 50V
R659 3.3k
IC651 PLL
IC651 LC72130
XOUT GND VT2 VT2IN PB2 PB1 VT1IN VT1 VDD AM OSC SW
XIN VCO STOP CE DI CL DO IF REQ MW FM OSC FM/AM IF
R655 10k
R656 10k
R667 10k
C663 0.01
R666 10k
X651 4.5MHz
C652 22p CH
C651 33p CH
C653 0.001 B
C655 0.001 B
D651 1SS355T
R669 4.7k
CE DI CL DO
CL PLL DO PLL DI CE
CL MC DI MC DO CE A+12V TUNED STEREO L-CH ANALOG.GND R-CH MUTE RDS B+5V
TO (2/3) (PAGE 32)
16

7-7. SCHEMATIC DIAGRAM MAIN SECTION (2/3)

- See page 24 for Waveforms.
- See page 46 for IC Pin Function Description.
- See page 52 for IC Block Diagrams.


【MAIN BOARD】 (2/3)
IC201
TOTX178A
OPTICAL DIGITAL OUT
CD DIGITAL OUT
OPTICAL
TO (1/3) (PAGE 31)
B TO AMP BOARD (PAGE 35)
C TO AMP BOARD (PAGE 35)
D TO VIDEO BOARD (PAGE 43)
K TO DRIVER BOARD (PAGE 41)
A TO PANEL BOARD (PAGE 37)
TO (3/3) (PAGE 33)
CN201 13P FFC-L
CN202 WIRE MT
CN902 13P B-TO-B
CN901 13P B-TO-B
CN903
CN401 30P B-TO-B
IIC-DATA
IIC-CLK
D+5V (UNSW)
D+5V (SW)
D-OUT
D-GND
L-CH
A-GND
R-CH
A+5V (SW)
X-RST
M-GND
M+7V
MGND
MTR CNT2
MTR CNT1
M+7V
D+5V
OPEN SW
CLOSE SW
BU UP/DOWN SW
TBL ADDRESS SW
D.GND
CL
MC DI
MC DO
CE
TUNED
STEREO
MUTE
RDS DATA
RDS INT
R-CH
L-CH
ANALOG.GND
A+10V
RDS D+5V
DIGITAL.GND
FAN ON
+12V UNREG
+12V GND
R-IN
A-GND
L-IN
STBY RELAY
EVER+5.6V
D-GND
STK MUTE
PROTECTOR
VP
AC3
AC3
AC4
AC4
-B
VF
VF
POWER GND
R-OUT
SP GND
SP GND
L-OUT
MOTOR DRIVE
FAN+
FAN-
FAN+
Q961 2SC2785
Q962 2SB1116
D961 1SS355TE
RY801 12V
D801 1SS355
TM801 4P
L-CH
R-CH
SP-GND
SP-GND
SPEAKER IMPEDANCE USE 6-16Ω
RELAY SWITCH
Q824 BA1A4M 10K/10K
Q829 2SC2785
PROTECT SWITCH
D822 1SS355
Q821 2SC2785
Q823 2SA1175
Q822 2SC2785
Q825 2SC2785
Q828 2SC2785
PROTECT CONT
C821 100 10V PROTECT DET
Q863 2SC3623A
Q862 2SC3623A
Q861 BN1F4M 22K/22K
MUTE CONT
MUTE SWITCH
D861 1SS355
D841 1SS355
D903 11ES2-TB5
D901 11ES2-TB5
D904 11ES2-TB5
D902 11ES2-TB5
EPT901
IC911
+5V REG.
Q911 RT1P137S
IC911 μPC7805A
Q912 BA1A4M 10K/10K
CD POWER SWITCH
D906 11ES2-TB5
D907 11ES2-TB5
D909 11ES2-TB5
D908 11ES2-TB5
IC951 μPC7805A
IC951
+5V REG.
D953 1SS355
D952 1SS355
IC921 μPC7812A
IC921
+12V REG.
IC971 M5F7809L
IC971
+9V REG.
D933 11ES2-TB5
D931 11ES2-TB5
D932 11ES2-TB5
D508 1SS355
JR911
TW
W2
VF
VF
VF
VP
RESET
WAKE UP
IIC-DATA
IIC-CLK
+7V LED
LED-GND
LED-GND
MIC+12V
MICSIG
MIC GND
MIC GND
HP-R
HP-GND
HP-GND
HP-L
D-GND
D-GND
SPEANA
EVER+5V
16

7-8. SCHEMATIC DIAGRAM MAIN SECTION (3/3)

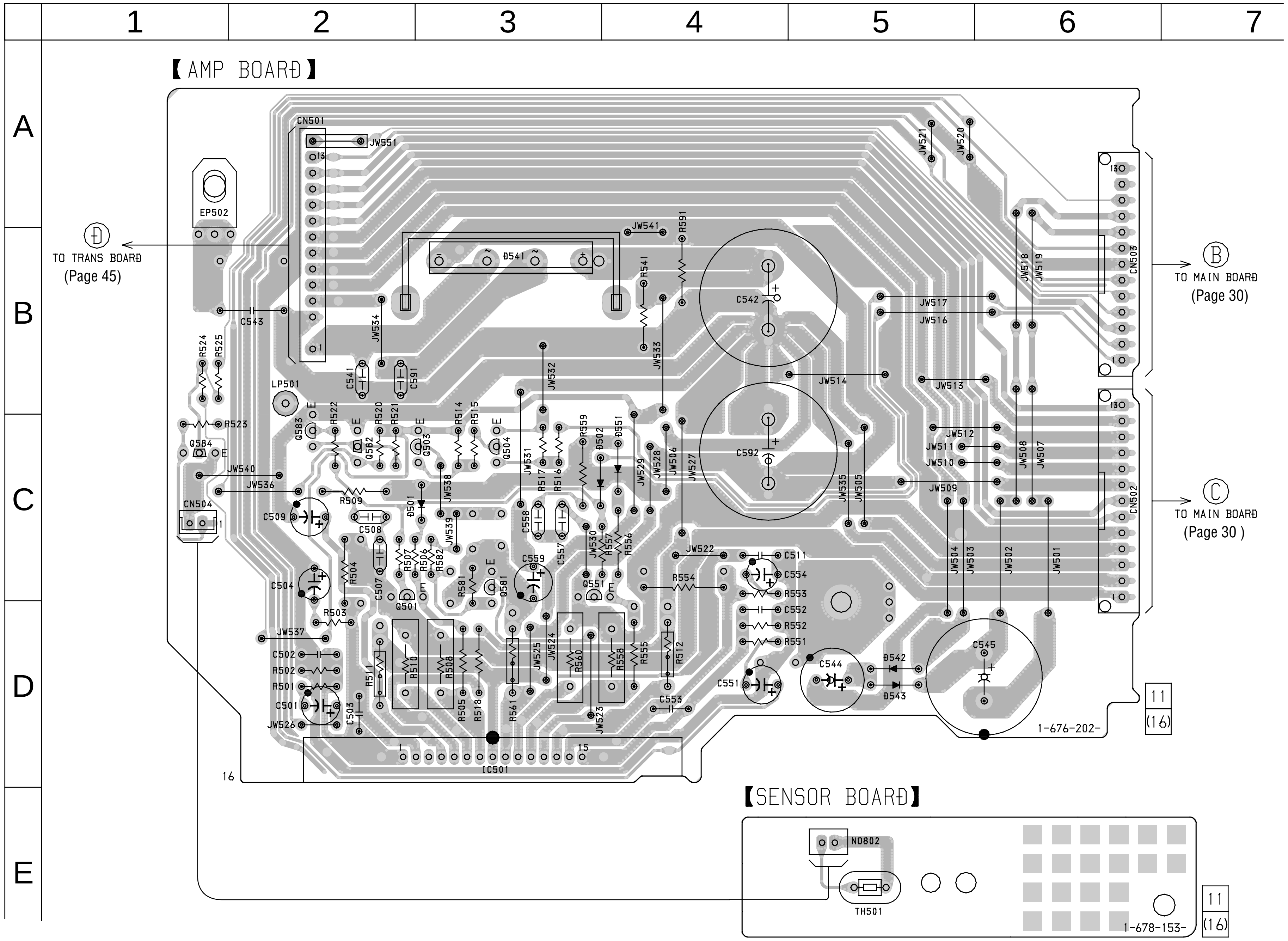

【MAIN BOARD】(3/3)
HEAD (A) BOARD
HEAD (B) BOARD
IC104 BUFFER
IC103 POWER ON
IC303
IC304
IC101 INPUT SELECT TONE CONTROL VOLUME
IC102 BUFFER
IC301 DECK PROCESS
IC302 REC/PB SWITCH
IC401 MASTER CONTROL
PIN FUNCTION
IC501 RESET
TO (2/3) (PAGE 32)
TO LEAF SW BOARD (PAGE 39)
CN304 17P FFC-S
BIAS OSC
MUTE SWITCH
A TRIG DRIVER
B TRIG DRIVER
CAP MOTOR SPEED CONT
CAP MOTOR DRIVE
RESET INV
TAPE A
TAPE B
MD/VIDEO (AUDIO)

7-9. PRINTED WIRING BOARD POWER AMP SECTION

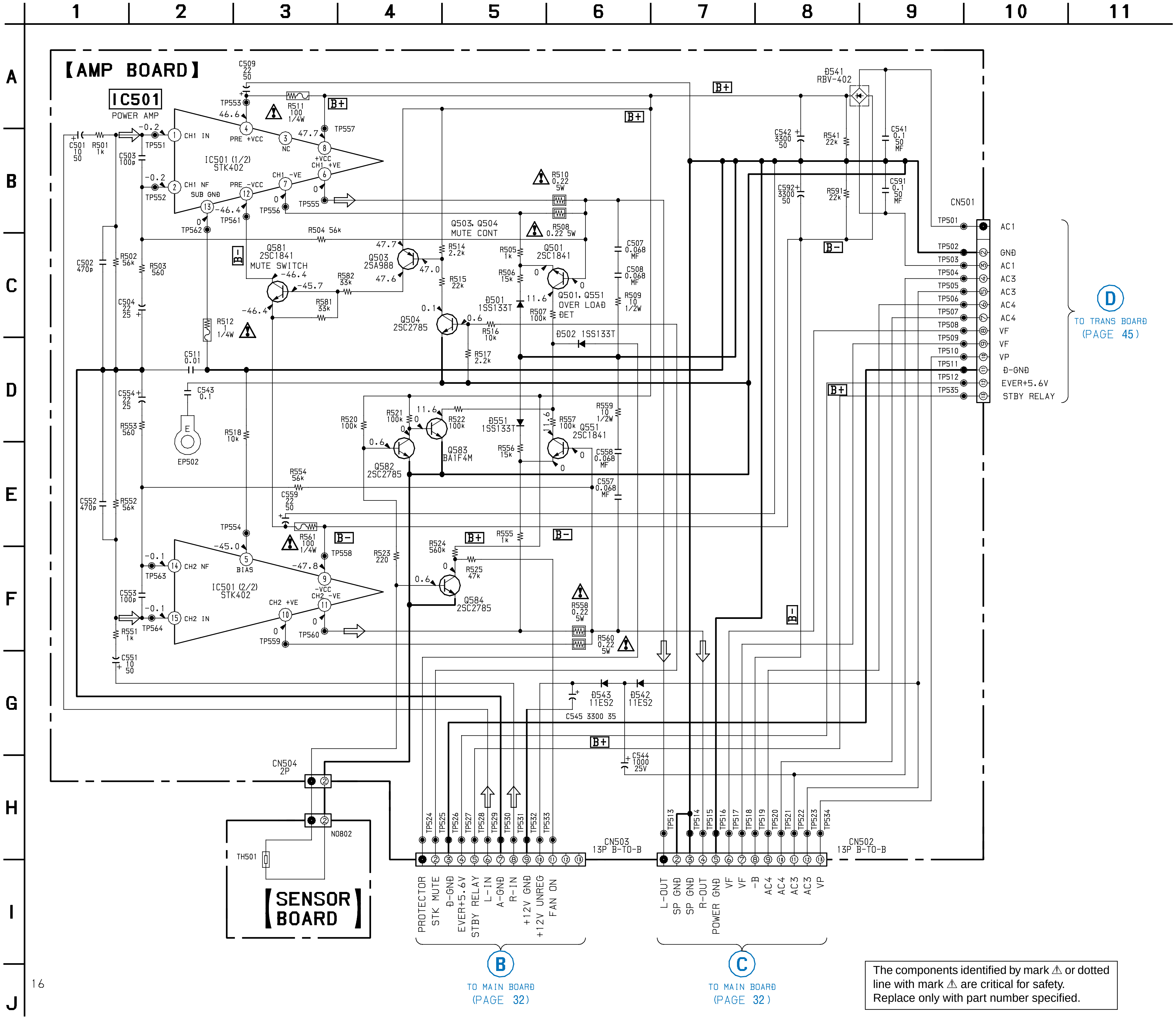
• See page page 23 for Circuit Boards Location.

• Semiconductor Location

Ref. No.	Location
D501	C-3
D502	C-3
D541	B-3
D542	D-5
D543	D-5
D551	C-4
IC501	D-3
Q501	C-3
Q503	C-3
Q504	C-3
Q551	C-4
Q581	C-3
Q582	C-2
Q583	C-2
Q584	C-1


1
2
3
4
5
6
7
A
B
C
D
E
【AMP BOARD】
D
TO TRANS BOARD
(Page 45)
B
TO MAIN BOARD
(Page 30)
C
TO MAIN BOARD
(Page 30)
CN501
CN502
CN503
CN504
EP502
LP501
C542
C592
C545
C544
IC501
1-676-202-
11
(16)
【SENSOR BOARD】
ND802
TH501
1-678-153-
11
(16)

7-10. SCHEMATIC DIAGRAM POWER AMP SECTION


1
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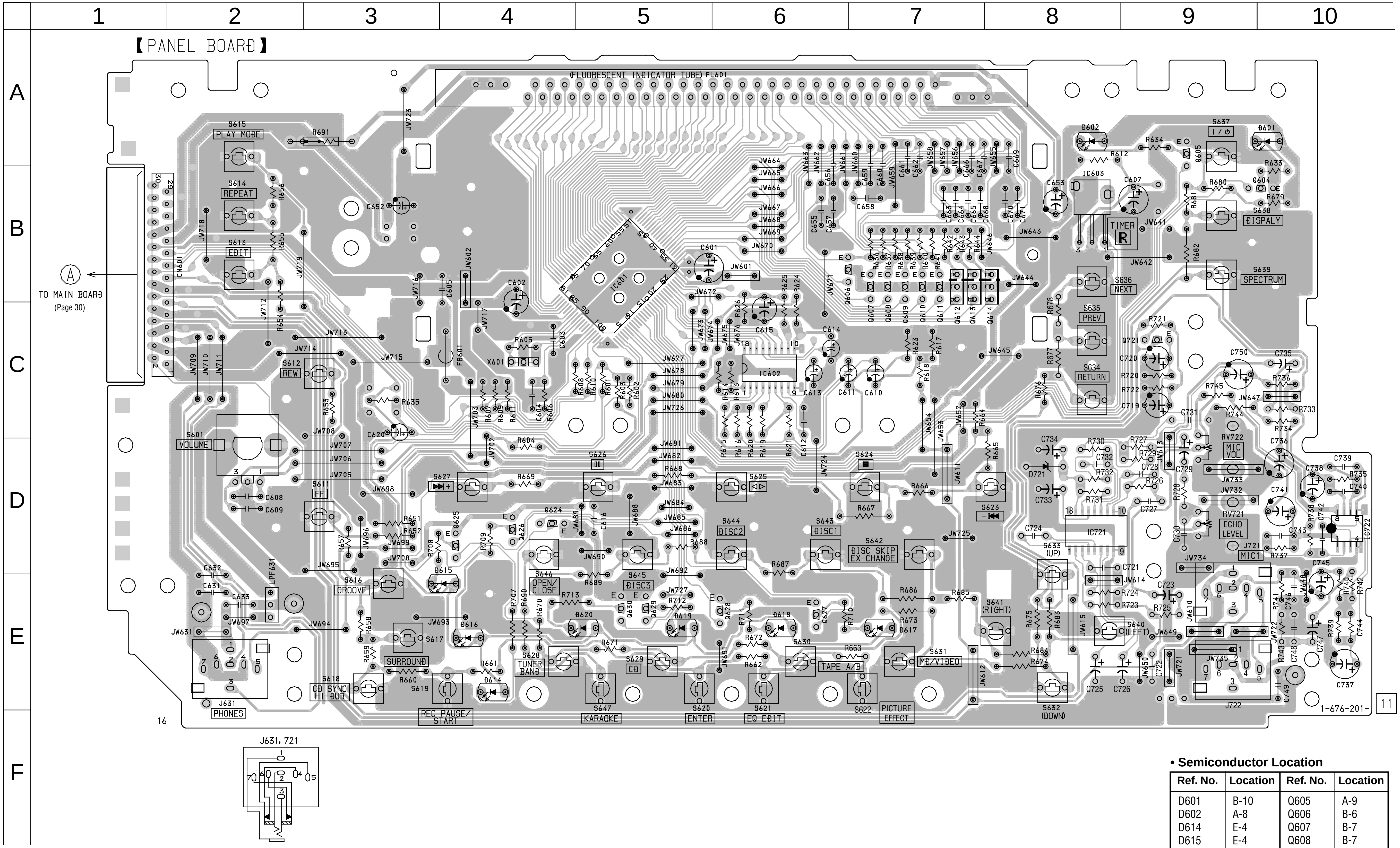
11
A
B
C
D
E
F
G
H
I
J
【AMP BOARD】
IC501
POWER AMP
IC501 (1/2) STK402
IC501 (2/2) STK402
CH1 IN
CH1 NF
SUB GND
PRE +VCC
PRE -VCC
NC
+VCC CH1 +VE
CH1 -VE
CH2 NF
CH2 IN
BIAS
-VCC CH2 -VE
CH2 +VE
TP551
TP552
TP553
TP554
TP555
TP556
TP557
TP558
TP559
TP560
TP561
TP562
TP563
TP564
C501 10 50
R501 1k
C503 100p
C509 22 50
R511 100 1/4W
C502 470p
R502 56k
R503 560
C504 22 25
R512 1/4W
C511 0.01
C543 0.1
EP502
R518 10k
C554 22 25
R553 560
C552 470p
R552 56k
C553 100p
R551 1k
C551 10 50
R504 56k
Q581 2SC1841 MUTE SWITCH
R582 33k
R581 33k
Q503 2SA988
Q504 2SC2785
Q503, Q504 MUTE CONT
R514 2.2k
R515 22k
R516 10k
R517 2.2k
D501 1SS133T
R505 1k
R506 15k
R507 100k
Q501 2SC1841
Q501, Q551 OVER LOAD DET
R510 0.22 5W
R508 0.22 5W
C507 0.068 MF
C508 0.068 MF
R509 10 1/2W
D502 1SS133T
D541 RBV-402
C542 3300 50
R541 22k
C541 0.1 50 MF
C592 3300 50
R591 22k
C591 0.1 50 MF
B+
B-
CN501
TP501
TP502
TP503
TP504
TP505
TP506
TP507
TP508
TP509
TP510
TP511
TP512
TP535
AC1
GND
AC1
AC3
AC3
AC4
AC4
VF
VF
VP
D-GND
EVER+5.6V
STBY RELAY
D
TO TRANS BOARD (PAGE 45)
R520 100k
R521 100k
R522 100k
Q583 BA1F4M
Q582 2SC2785
D551 1SS133T
R556 15k
R557 100k
Q551 2SC1841
R559 10 1/2W
C558 0.068 MF
C557 0.068 MF
R554 56k
C559 22 50
R561 100 1/4W
R523 220
R524 560k
R525 47k
Q584 2SC2785
R555 1k
R558 0.22 5W
R560 0.22 5W
D543 11E52
D542 11E52
C545 3300 35
C544 1000 25V
CN504 2P
NO802
TH501
SENSOR BOARD
TP524
TP525
TP526
TP527
TP528
TP529
TP530
TP531
TP532
TP533
CN503 13P B-TO-B
PROTECTOR
STK MUTE
D-GND
EVER+5.6V
STBY RELAY
L-IN
A-GND
R-IN
+12V GND
+12V UNREG
FAN ON
B
TO MAIN BOARD (PAGE 32)
TP513
TP514
TP515
TP516
TP517
TP518
TP519
TP520
TP521
TP522
TP523
TP534
CN502 13P B-TO-B
L-OUT
SP GND
SP GND
R-OUT
POWER GND
VF
VF
-B
AC4
AC4
AC3
AC3
VP
C
TO MAIN BOARD (PAGE 32)
16

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

7-11. PRINTED WIRING BOARD PANEL SECTION

• See page page 23 for Circuit Boards Location.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A
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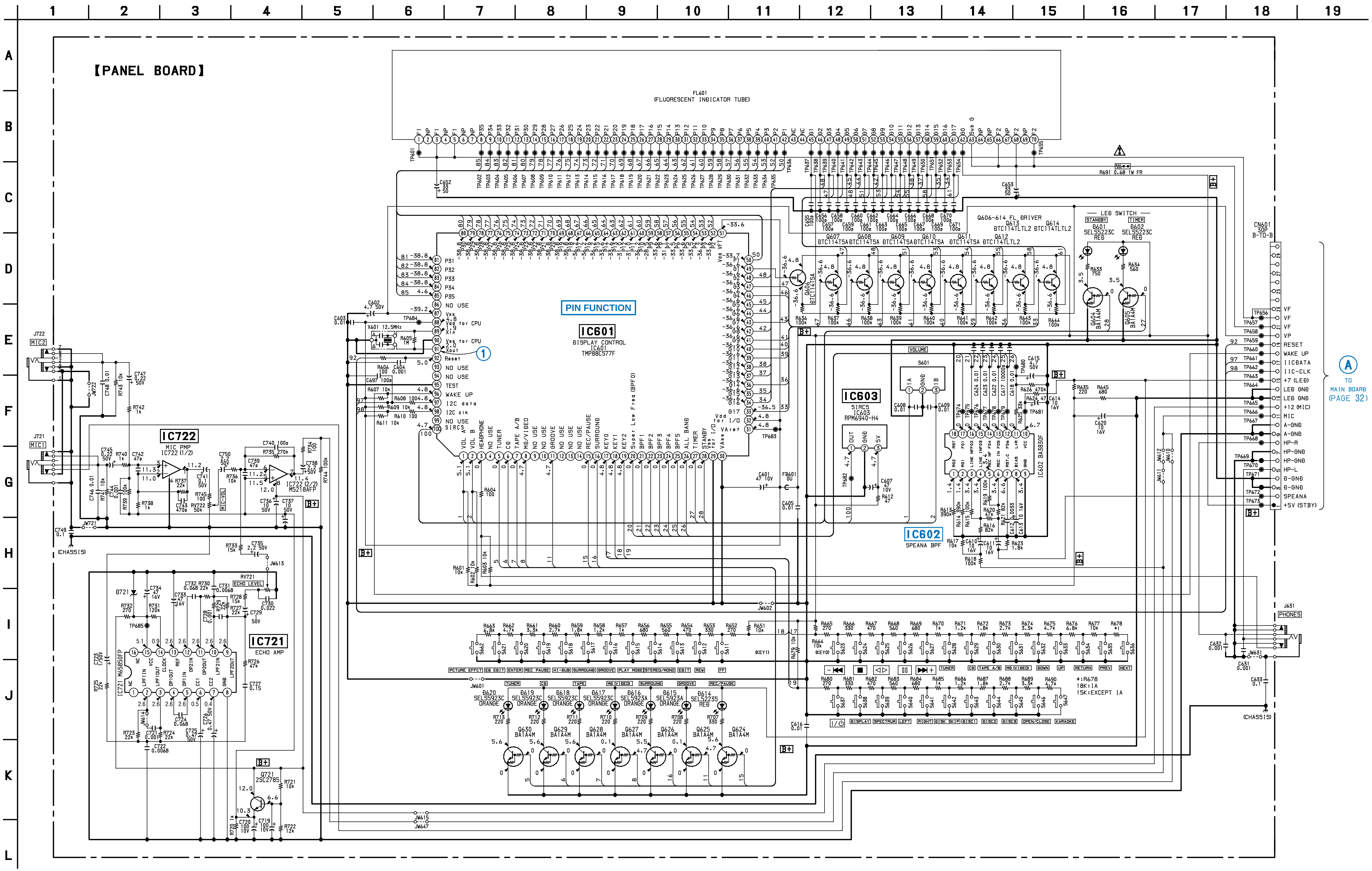
C
D
E
F
【PANEL BOARD】
(FLUORESCENT INDICATOR TUBE) FL601
A
TO MAIN BOARD
(Page 30)
CN601
S615 PLAY MODE
S614 REPEAT
S613 EDIT
S612 REW
S601 VOLUME
S611 FF
S616 GROOVE
S617 SURROUND
S618 CD SYNC HI-DUB
S619 REC PAUSE/START
S627
S626
S628 TUNER BAND
S646 OPEN/CLOSE
S645 DISC3
S647 KARAOKE
S629 CD
S620 ENTER
S644 DISC2
S625
S621 EQ EDIT
S630 TAPE A/B
S643 DISC1
S642 DISC SKIP EX-CHANGE
S622
S624
S623
S631 MD/VIDEO
PICTURE EFFECT
S641 (RIGHT)
S633 (UP)
S632 (DOWN)
S640 (LEFT)
S636 NEXT
S635 PREV
S634 RETURN
TIMER
S637 I/⏻
S638 DISPLAY
S639 SPECTRUM
RV722 MIC VOL
RV721 ECHO LEVEL
J721 MIC1
J722
J631 PHONES
IC601
IC602
IC603
IC721
IC722
LPF631
X601
FB601
D601
D602
D614
D615
D616
D617
D618
D619
D620
D721
1-676-201-
11
16
J631, 721

• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D601	B-10	Q605	A-9
D602	A-8	Q606	B-6
D614	E-4	Q607	B-7
D615	E-4	Q608	B-7
D616	E-4	Q609	B-7
D617	E-7	Q610	B-7
D618	E-6	Q611	B-7
D619	E-5	Q612	B-7
D620	E-5	Q613	B-7
D721	D-8	Q614	B-8
		Q624	D-4
IC601	B-5	Q625	D-4
IC602	C-6	Q626	D-4
IC603	B-8	Q627	E-6
IC721	D-8	Q628	E-6
IC722	D-10	Q629	E-5
		Q630	E-5
Q604	B-10	Q721	C-9

7-12. SCHEMATIC DIAGRAM PANEL SECTION

- See page 24 for Waveforms.
- See page 47 for IC Pin Function Description.

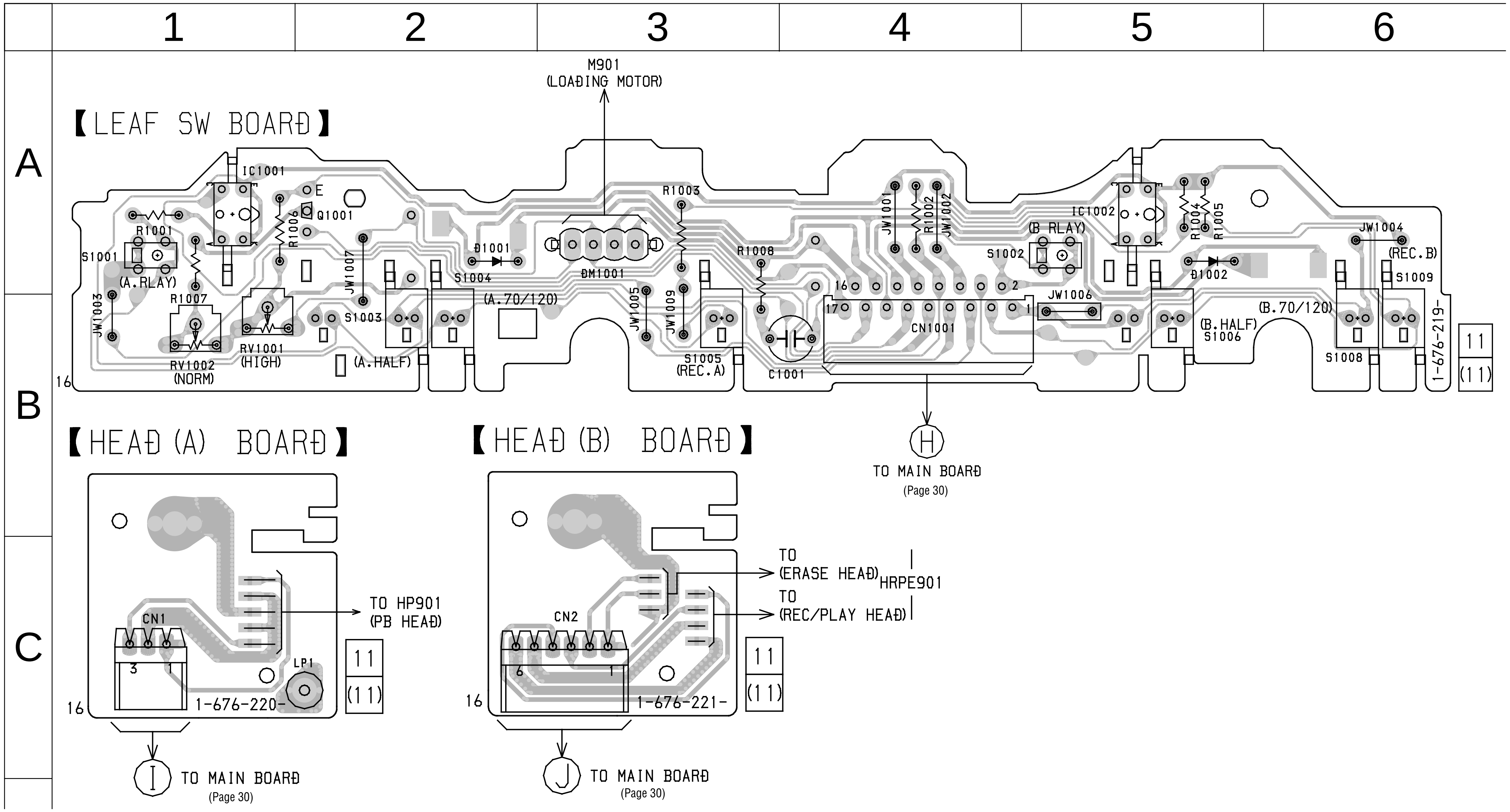

【PANEL BOARD】
FL601 (FLUORESCENT INDICATOR TUBE)
IC601 DISPLAY CONTROL IC601 TMP88C577F
PIN FUNCTION
IC603 SIRCS IC603 RPM6940-H4
IC602 SPEANA BPF
IC602 BA3830F
IC722 MIC PMP IC722 (1/2)
IC722 (2/2) M5218AFP
IC721 ECHO AMP
IC721 M65850FP
Q606-614 FL DRIVER
LED SWITCH
STANDBY
TIMER
VOLUME
S601
X601 12.5MHz
Q721 2SC2785
ECHO LEVEL
RV721
J722 MIC2
J721 MIC1
J631 PHONES
CN601 30P B-TO-B
(CHASSIS)
R691 0.68 1W FR
A TO MAIN BOARD (PAGE 32)
VF
RESET
WAKE UP
IICDATA
IIC-CLK
+7 (LED)
LED GND
+12 (MIC)
MIC
A-GND
HP-R
HP-GND
HP-L
D-GND
SPEANA
+5V (STBY)
PICTURE EFFECT
EQ EDIT
ENTER
REC PAUSE
HI-DUB
SURROUND
GROOVE
PLAY MODE
STEREO/MONO
EDIT
REW
FF
TUNER
CD
TAPE A/B
MD (VIDEO)
DOWN
UP
RETURN
PREV
NEXT
I/⏻
DISPLAY
SPECTRUM
LEFT
RIGHT
DISC SKIP
DISC1
DISC2
DISC3
OPEN/CLOSE
KARAOKE
*:R678
18K:IA
15K:EXCEPT IA
B+
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
A
B
C
D
E
F
G
H
I
J
K
L

7-13. PRINTED WIRING BOARD LEAF SW SECTION

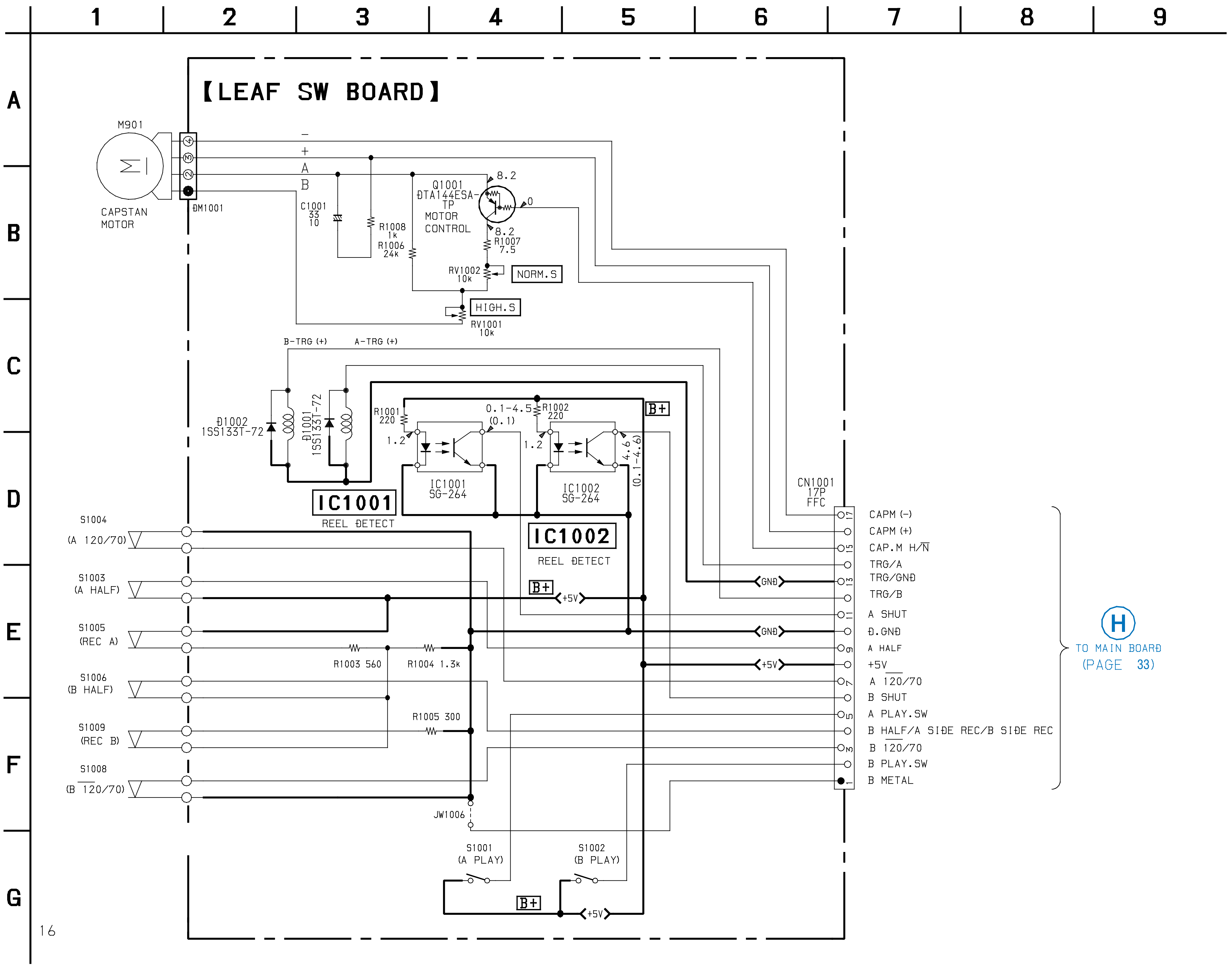
• See page 23 for Circuit Boards Location.

• Semiconductor Location

Ref. No.	Location
D1001	A-2
D1002	A-5
IC1001	A-1
IC1002	A-5
Q1001	A-2


1
2
3
4
5
6
A
B
C
M901
(LOADING MOTOR)
【LEAF SW BOARD】
IC1001
E
Q1001
R1001
R1006
S1001
(A.RLAY)
JW1003
R1007
RV1002
(NORM)
RV1001
(HIGH)
JW1007
S1004
S1003
(A.HALF)
D1001
(A.70/120)
DM1001
R1003
JW1005
JW1009
S1005
(REC.A)
R1008
C1001
JW1001
R1002
JW1002
16
2
17
1
CN1001
IC1002
(B RLAY)
S1002
JW1006
R1004
R1005
D1002
(B.HALF)
S1006
(B.70/120)
JW1004
(REC.B)
S1009
S1008
1-676-219-
11
(11)
TO MAIN BOARD
(Page 30)
H
【HEAD (A) BOARD】
CN1
3
1
LP1
1-676-220-
16
TO HP901
(PB HEAD)
11
(11)
I
TO MAIN BOARD
(Page 30)
【HEAD (B) BOARD】
CN2
6
1
1-676-221-
16
TO
(ERASE HEAD)
HRPE901
TO
(REC/PLAY HEAD)
11
(11)
J
TO MAIN BOARD
(Page 30)

7-14. SCHEMATIC DIAGRAM LEAF SW SECTION

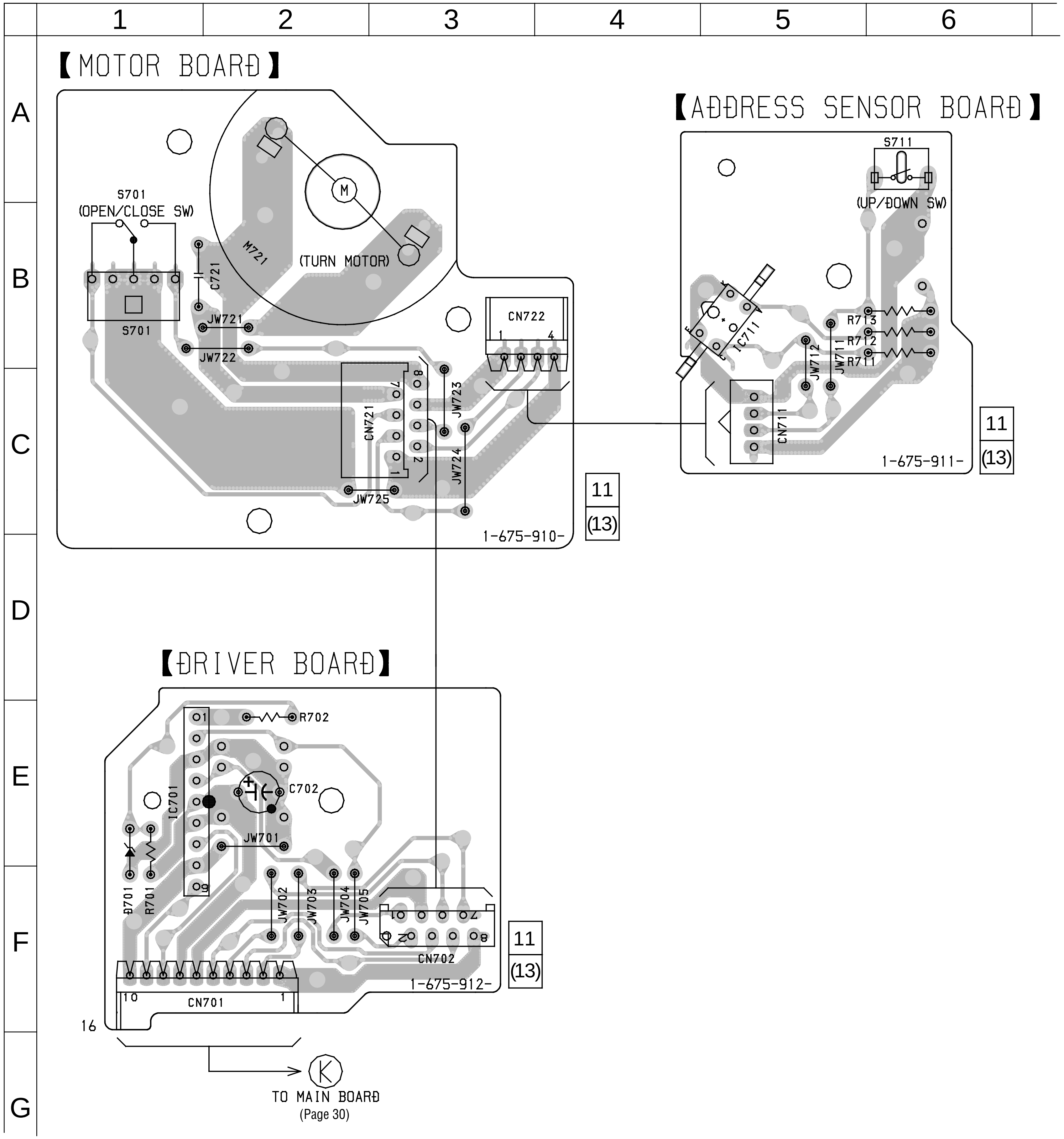

1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
【LEAF SW BOARD】
M901
CAPSTAN
MOTOR
ĐM1001
−
+
A
B
C1001
33
10
R1008
1k
R1006
24k
Q1001
ĐTA144ESA-
TP
MOTOR
CONTROL
8.2
0
8.2
R1007
7.5
RV1002
10k
NORM.S
HIGH.S
RV1001
10k
B-TRG (+)
A-TRG (+)
Đ1002
1SS133T-72
Đ1001
1SS133T-72
R1001
220
1.2
0.1-4.5
(0.1)
R1002
220
1.2
4.6
(0.1-4.6)
B+
IC1001
SG-264
IC1002
SG-264
IC1001
REEL DETECT
IC1002
REEL DETECT
CN1001
17P
FFC
S1004
(A 120/70)
S1003
(A HALF)
S1005
(REC A)
S1006
(B HALF)
S1009
(REC B)
S1008
(B 120/70)
B+
+5V
GND
GND
+5V
R1003 560
R1004 1.3k
R1005 300
JW1006
S1001
(A PLAY)
S1002
(B PLAY)
B+
+5V
17
15
13
11
9
7
5
3
1
CAPM (−)
CAPM (+)
CAP.M H/N
TRG/A
TRG/GND
TRG/B
A SHUT
Đ.GND
A HALF
+5V
A 120/70
B SHUT
A PLAY.SW
B HALF/A SIĐE REC/B SIĐE REC
B 120/70
B PLAY.SW
B METAL
H
TO MAIN BOARD
(PAGE 33)
16

7-15. PRINTED WIRING BOARD DRIVER SECTION

• See page page 23 for Circuit Boards Location.

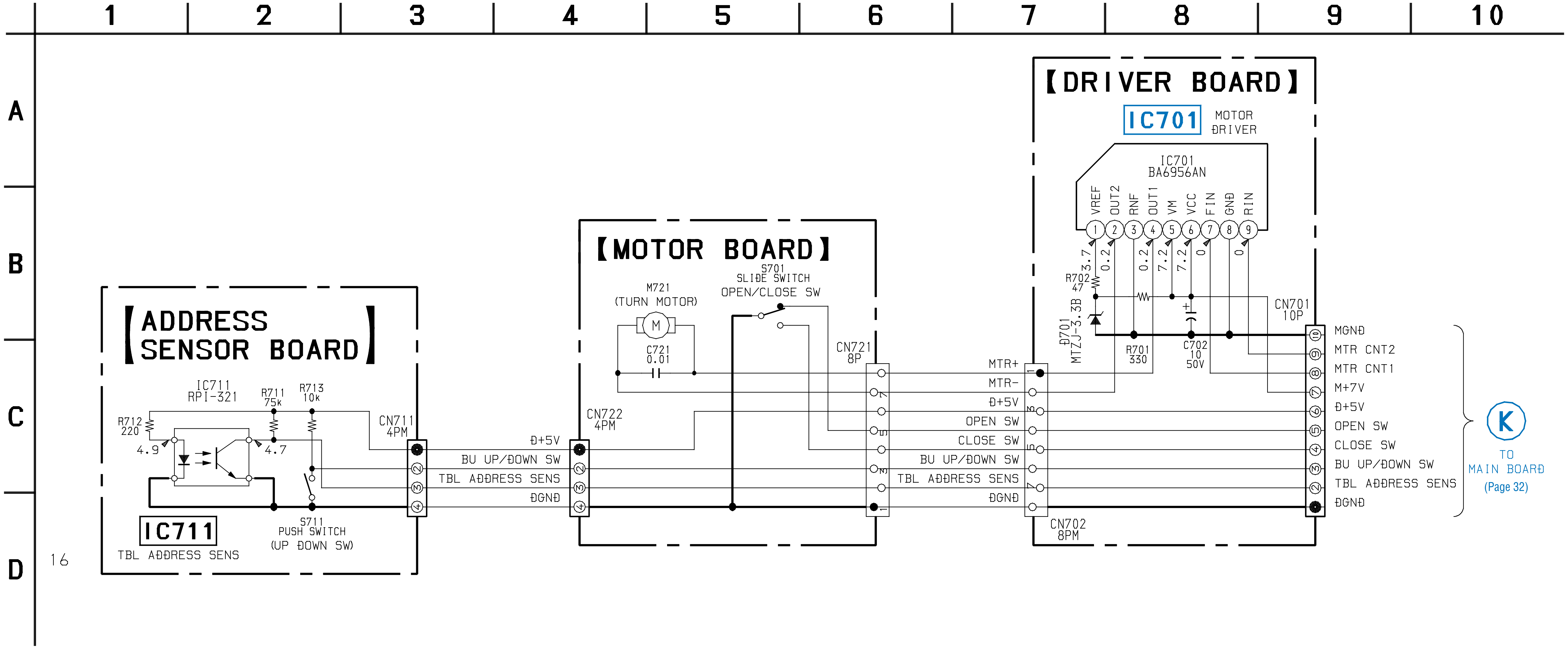
- **Semiconductor Location**

Ref. No.	Location
D701	E-1
IC701	E-1
IC711	B-5


1
2
3
4
5
6
A
B
C
D
E
F
G
【MOTOR BOARD】
S701
(OPEN/CLOSE SW)
M
M721
(TURN MOTOR)
C721
S701
JW721
JW722
CN722
1
4
CN721
8
7
2
1
JW723
JW724
JW725
1-675-910-
11
(13)
【ADDRESS SENSOR BOARD】
S711
(UP/DOWN SW)
IC711
R713
R712
R711
JW712
JW711
CN711
1-675-911-
11
(13)
【DRIVER BOARD】
R702
1
IC701
C702
JW701
9
D701
R701
JW702
JW703
JW704
JW705
2
8
CN702
1-675-912-
11
(13)
10
1
CN701
16
K
TO MAIN BOARD
(Page 30)

7-16. SCHEMATIC DIAGRAM DRIVER SECTION

• See page 51 for IC Block Diagrams.

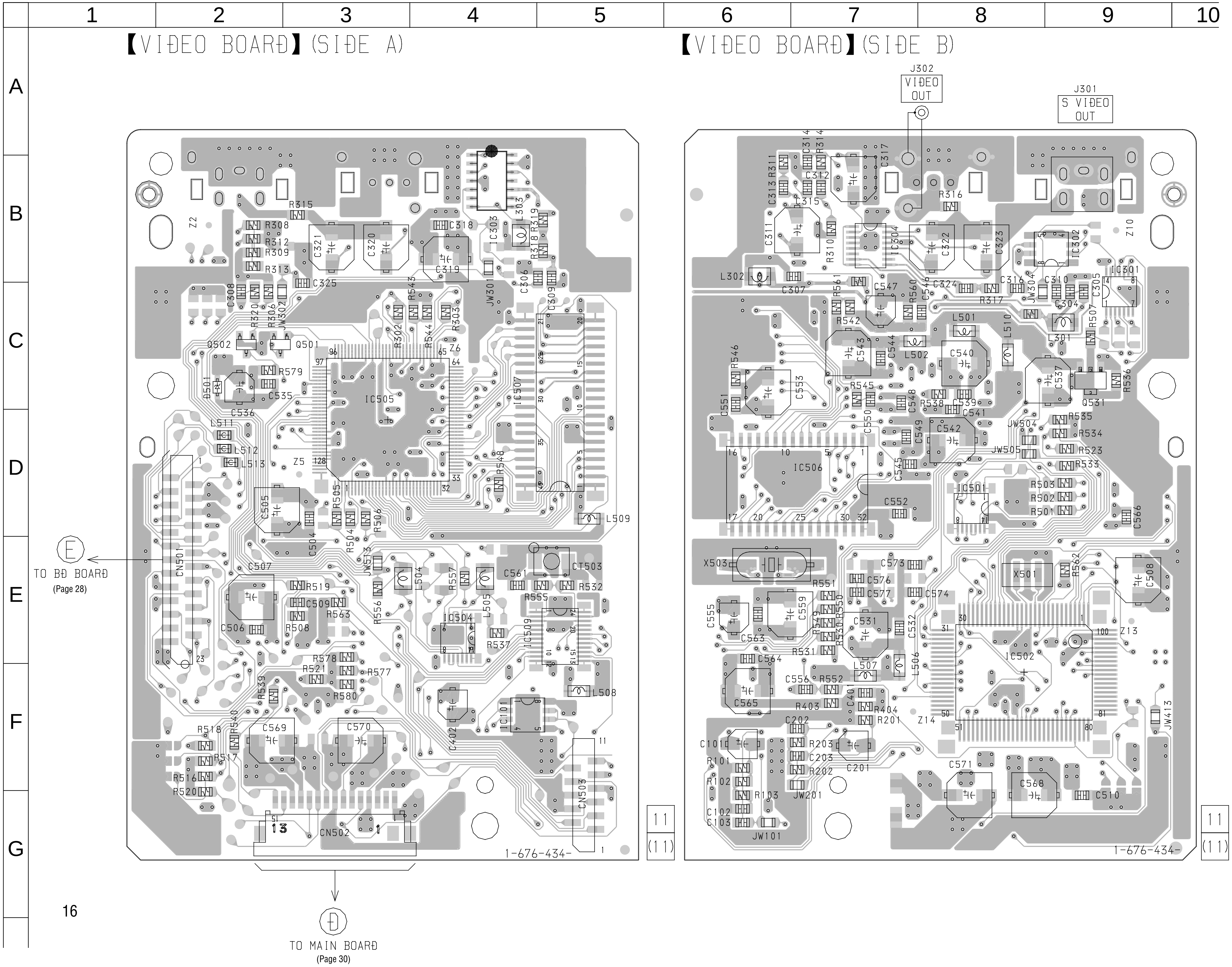

1
2
3
4
5
6
7
8
9
10
A
B
C
D
【DRIVER BOARD】
IC701
MOTOR DRIVER
IC701
BA6956AN
VREF
OUT2
RNF
OUT1
VM
VCC
FIN
GND
RIN
3.7
0.2
0.2
7.2
7.2
0
0
R702 47
D701 MTZJ-3.3B
R701 330
C702 10 50V
CN701 10P
CN702 8PM
MGND
MTR CNT2
MTR CNT1
M+7V
D+5V
OPEN SW
CLOSE SW
BU UP/DOWN SW
TBL ADDRESS SENS
DGND
K
TO MAIN BOARD
(Page 32)
【MOTOR BOARD】
M721
(TURN MOTOR)
M
C721 0.01
S701
SLIDE SWITCH
OPEN/CLOSE SW
CN721 8P
CN722 4PM
MTR+
MTR-
D+5V
OPEN SW
CLOSE SW
BU UP/DOWN SW
TBL ADDRESS SENS
DGND
D+5V
BU UP/DOWN SW
TBL ADDRESS SENS
DGND
【ADDRESS SENSOR BOARD】
IC711 RPI-321
R711 75k
R713 10k
R712 220
4.9
4.7
CN711 4PM
IC711
TBL ADDRESS SENS
S711
PUSH SWITCH
(UP DOWN SW)
16

7-17. PRINTED WIRING BOARD VIDEO CD SECTION

• See page 23 for Circuit Boards Location.

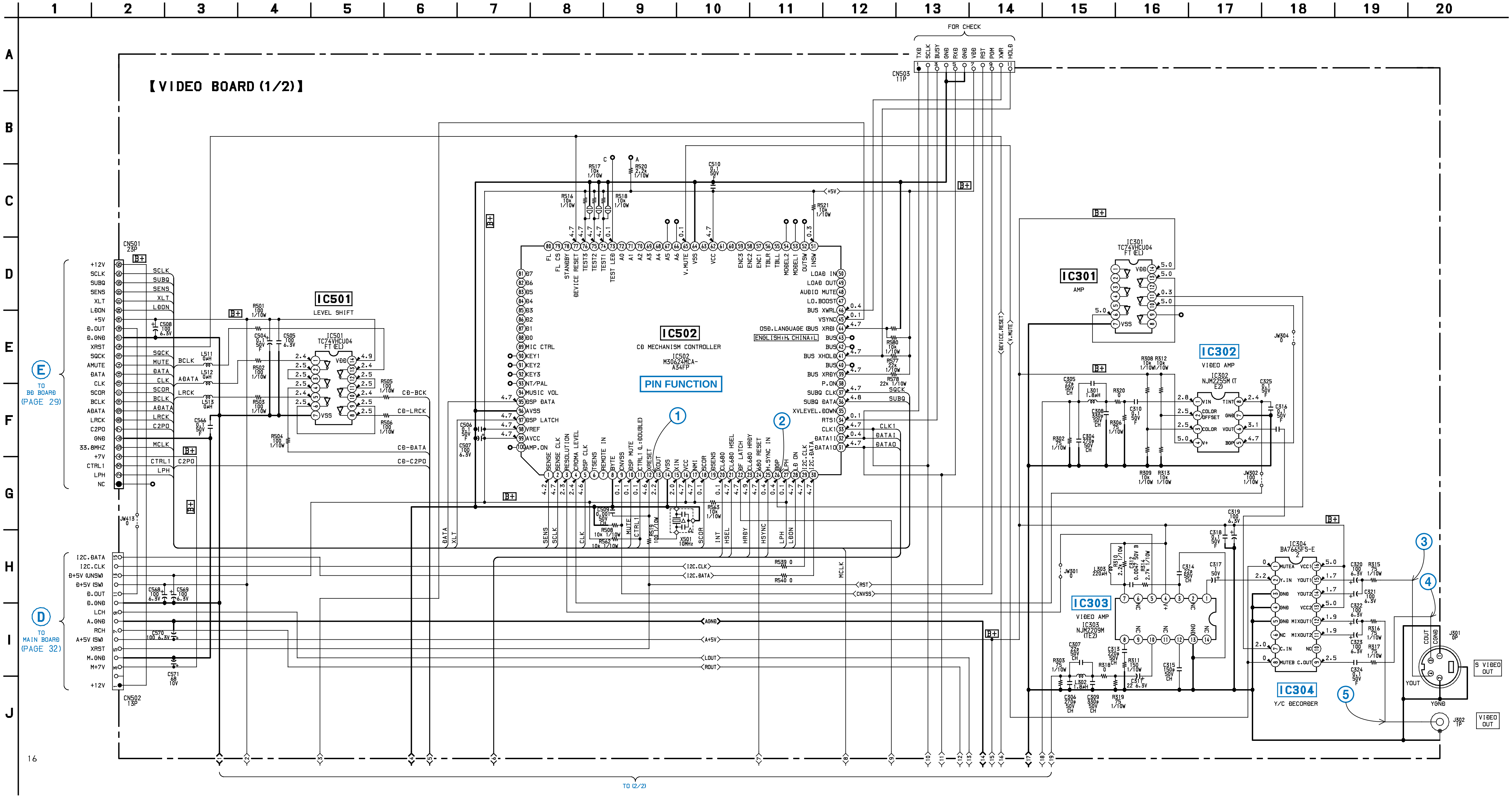
• Semiconductor Location

Ref. No.	Location
D501	C-2
IC101	F-4
IC301	B-9
IC302	B-9
IC303	B-4
IC304	B-7
IC501	D-8
IC502	E-9
IC504	E-4
IC505	C-3
IC506	D-7
IC507	C-4
IC509	E-5
Q501	C-3
Q502	C-2
Q531	C-9


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
【VIDEO BOARD】(SIDE A)
【VIDEO BOARD】(SIDE B)
J302
VIDEO OUT
J301
S VIDEO OUT
E
TO BD BOARD
(Page 28)
D
TO MAIN BOARD
(Page 30)
CN501
CN502
CN503
IC505
IC507
IC504
IC509
IC101
IC303
IC506
IC501
IC502
IC304
IC302
IC301
Q501
Q502
Q531
D501
X501
X503
1-676-434-
11
(11)
16

7-18. SCHEMATIC DIAGRAM VIDEO CD SECTION (1/2)

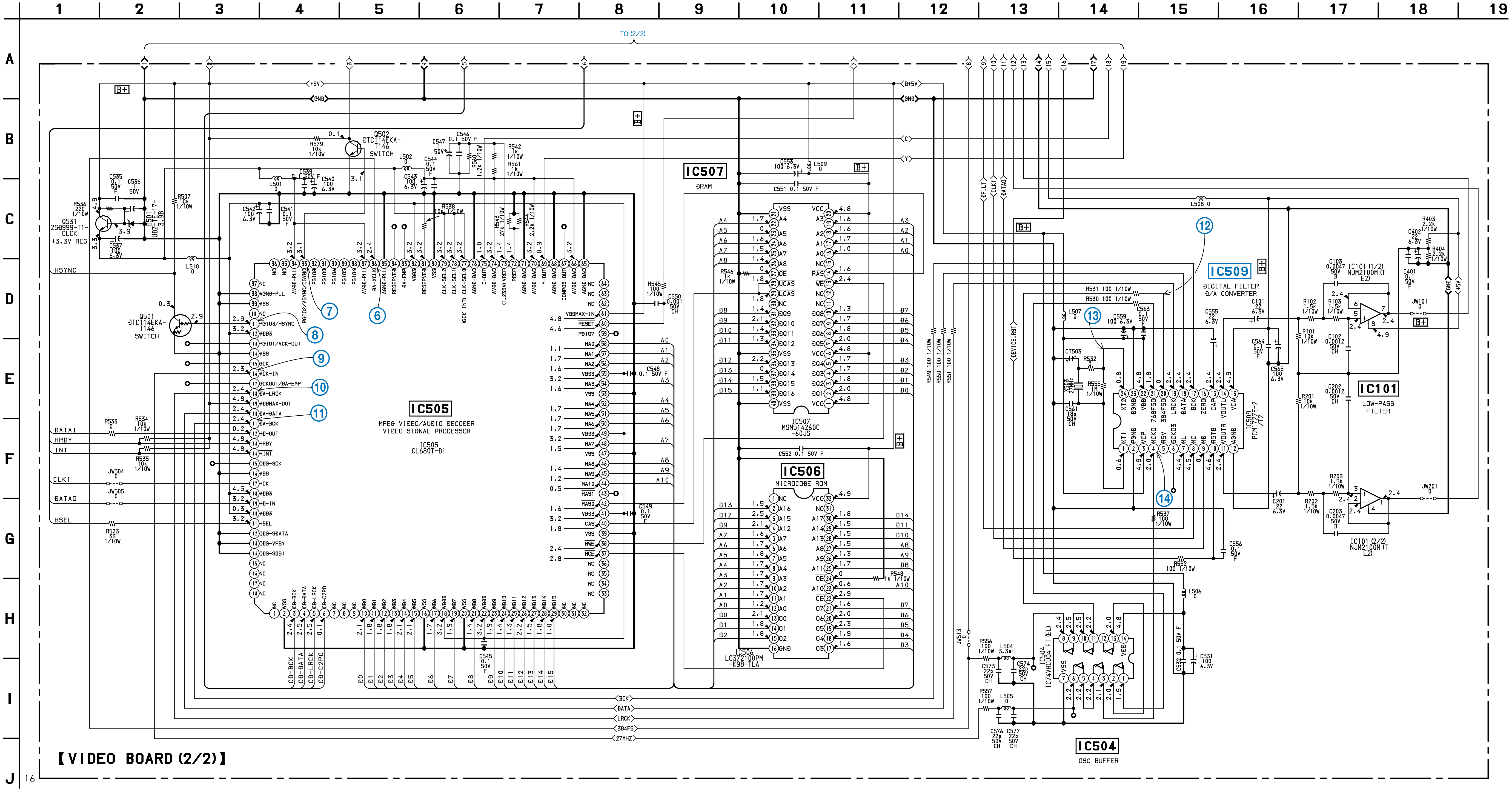
- See page 24 for Waveforms.
- See page 48 for IC Pin Function Description.
- See page 53 for IC Block Diagrams.



【VIDEO BOARD (1/2)】
FOR CHECK
CN503 11P
TXD SCLK BUSY GND RXD GND VDD RST PON XWR HOLD
CN501 23P
E TO BD BOARD (PAGE 29)
D TO MAIN BOARD (PAGE 32)
CN502 13P
IC501 LEVEL SHIFT
IC501 TC74VHCU04 FT (EL)
IC502 CD MECHANISM CONTROLLER
IC502 M30624MCA-A34FP
PIN FUNCTION
OSD.LANGUAGE (BUS XRD)
ENGLISH:H, CHINA:L
IC301 AMP
IC301 TC74VHCU04 FT (EL)
IC302 VIDEO AMP
IC302 NJM2255M (T E2)
IC303 VIDEO AMP
IC303 NJM2209M (TE2)
IC304 Y/C DECODER
IC304 BA7665FS-E
J301 4P
S VIDEO OUT
J302 1P
VIDEO OUT
YOUT
COUT
YGND
CGND
X501 10MHz
(DEVICE.RESET)
(V.MUTE)
(I2C.CLK)
(I2C.DATA)
(RST)
(CNVSS)
(AGND)
(A+5V)
(LOUT)
(ROUT)
(+5V)
CD-BCK
CD-LRCK
CD-DATA
CD-C2PO
TO (2/2)
① ② ③ ④ ⑤
16

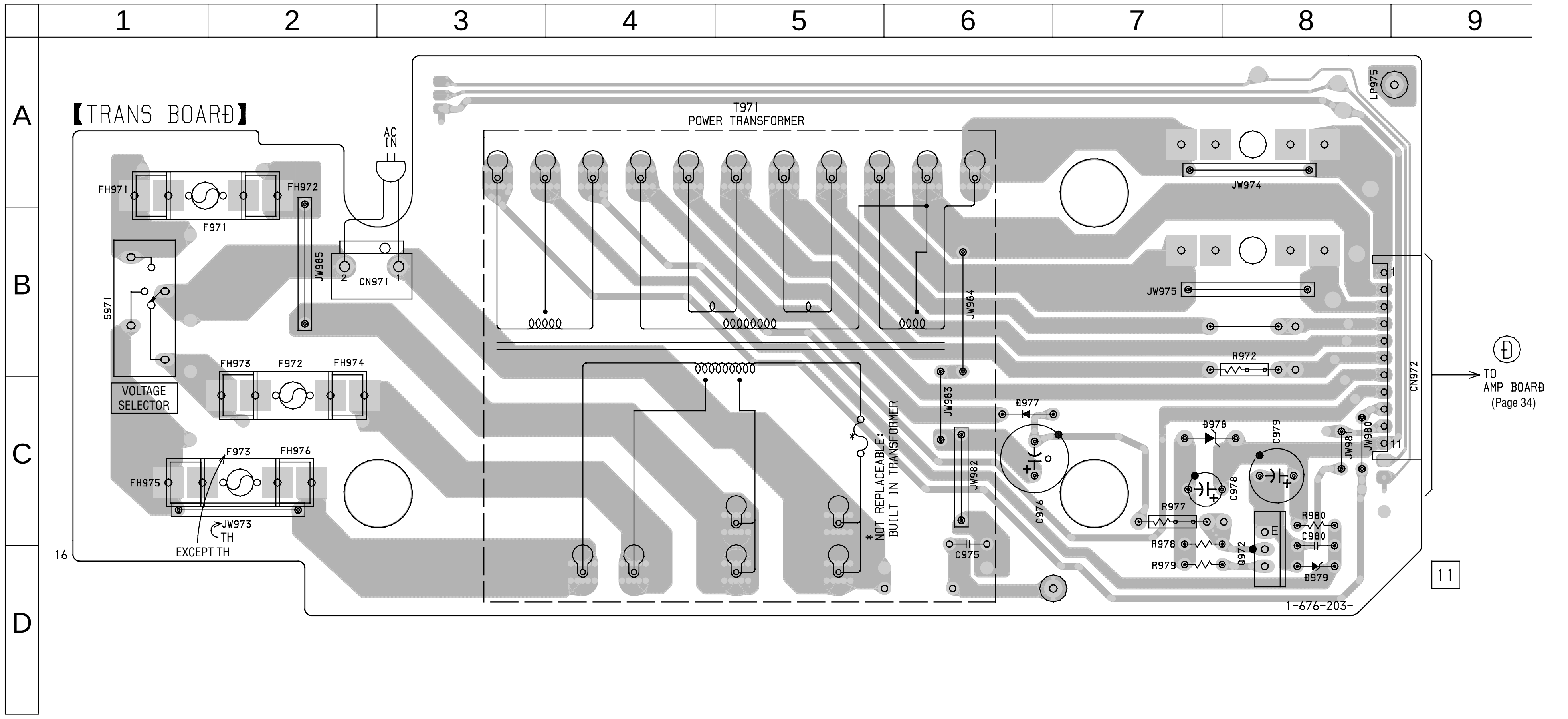
7-19. SCHEMATIC DIAGRAM VIDEO CD SECTION (2/2)

- See page 24 for Waveforms.
- See page 48 for IC Pin Function Description.
- See page 53 for IC Block Diagrams.

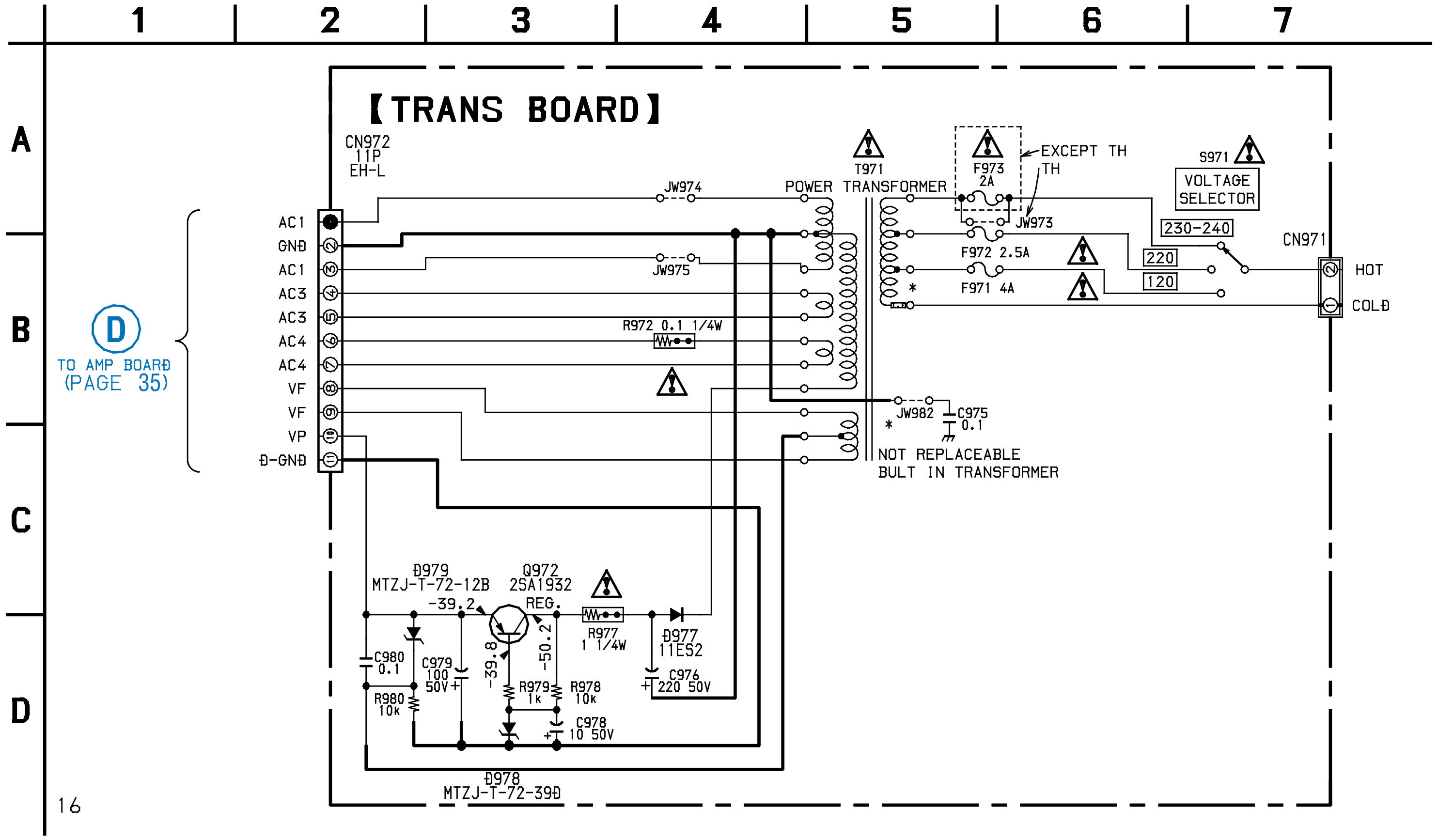

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
A
B
C
D
E
F
G
H
I
J
TO (2/2)
+5V
GND
B+5V
C
Y
B+
Q502
DTC114EKA-T146
SWITCH
R579 10k 1/10W
C547 1 50V
C546 0.1 50V F
R542 1k 1/10W
R561 1k 1/10W
L502 0
C544 0.1 50V F
C543 100 6.3V
C539 0.1 50V F
C540 100 6.3V
L501 0
R536 220 1/10W
Q531 2SD999-T1-CLCK +3.3V REG
C535 0.1 50V F
C536 1 50V
D501 UDZ-3.9B
R507 10k 1/10W
C537 100 6.3V
C542 100 6.3V
C541 0.1 50V F
R538 10k 1/10W
L510 0
HSYNC
Q501 DTC114EKA-T146 SWITCH
DATA1
HRDY
INT
CLK1
DATAO
HSEL
R533 0
R534 10k 1/10W
R535 10k 1/10W
JW504 0
JW505 0
R523 33 1/10W
IC505
MPEG VIDEO/AUDIO DECODER VIDEO SIGNAL PROCESSOR
IC505 CL680T-D1
R545 100 1/10W
C550 0.001 50V CH
C548 0.1 50V F
C549 0.1 50V F
C545 0.1 50V F
CD-BCK
CD-DATA
CD-LRCK
CD-C2PO
D0
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
D12
D13
D14
D15
IC507
DRAM
IC507 MSM514260C-60JS
C553 100 6.3V
L509 0
C551 0.1 50V F
R546 1k 1/10W
C552 0.1 50V F
IC506
MICROCODE ROM
IC506 LC372100PM-K98-TLA
R548 1k 1/10W
R549 100 1/10W
R550 100 1/10W
R551 100 1/10W
DF.LT
CLK1
DATAO
DEVICE.RST
L508 0
IC509
DIGITAL FILTER D/A CONVERTER
IC509 PCM1727E-2/T2
R531 100 1/10W
R530 100 1/10W
L507 0
C559 100 6.3V
C563 0.1 50V F
CT503
R532 0
C562 27p
R555 1M 1/10W
C561 18p 50V CH
C555 22 6.3V
C564 0.1 50V F
C565 100 6.3V
R537 100 1/10W
R552 100 1/10W
C556 0.1 50V F
L506 0
C101 22 6.3V
C201 22 6.3V
IC101
LOW-PASS FILTER
C103 0.0047 50V B
IC101 (1/2) NJM2100M (T E2)
R102 1.5k 1/10W
R103 1.5k 1/10W
R101 10k 1/10W
C102 0.0012 50V CH
R201 10k 1/10W
C202 0.0012 50V CH
R203 1.5k 1/10W
R202 1.5k 1/10W
C203 0.0047 50V B
IC101 (2/2) NJM2100M (T E2)
R403 2.2k 1/10W
C402 22 6.3V
R404 2.2k 1/10W
C401 0.1 50V F
JW101 0
JW201 0
GND
+5V
IC504
OSC BUFFER
IC504 TC74VHCU04 FT (EL)
JW513 0
R556 100 1/10W
L504 3.3µH
C573 22p 50V CH
C574 22p 50V CH
R557 100 1/10W
L505 0
C576 22p 50V CH
C577 22p 50V CH
C531 100 6.3V
C532 0.1 50V F
BCK
DATA
LRCK
384FS
27MHZ
⑥
⑦
⑧
⑨
⑩
⑪
⑫
⑬
⑭
【VIDEO BOARD (2/2)】
16

7-20. PRINTED WIRING BOARD POWER SECTION

• See page 23 for Circuit Boards Location.


1
2
3
4
5
6
7
8
9
A
B
C
D
【TRANS BOARD】
AC IN
T971
POWER TRANSFORMER
LP975
FH971
F971
FH972
JW985
CN971
S971
VOLTAGE SELECTOR
FH973
F972
FH974
F973
FH976
FH975
JW973
TH
EXCEPT TH
16
JW974
JW975
JW984
JW983
JW982
R972
D977
D978
C979
C976
C978
R977
R978
R979
R980
C980
D979
Q972
C975
JW981
JW980
CN972
* NOT REPLACEABLE: BUILT IN TRANSFORMER
D
TO AMP BOARD
(Page 34)
11
1-676-203-

7-11. SCHEMATIC DIAGRAM POWER SECTION


1
2
3
4
5
6
7
A
B
C
D
【TRANS BOARD】
CN972
11P
EH-L
AC1
GND
AC1
AC3
AC3
AC4
AC4
VF
VF
VP
D-GND
D
TO AMP BOARD
(PAGE 35)
JW974
JW975
R972 0.1 1/4W
POWER TRANSFORMER
T971
F973
2A
EXCEPT TH
TH
JW973
F972 2.5A
F971 4A
S971
VOLTAGE SELECTOR
230-240
220
120
CN971
HOT
COLD
JW982
C975
0.1
* NOT REPLACEABLE
BULT IN TRANSFORMER
D979
MTZJ-T-72-12B
Q972
2SA1932
REG
-39.2
-39.8
-50.2
R977
1 1/4W
D977
11ES2
C976
220 50V
C980
0.1
C979
100
50V
R980
10k
R979
1k
R978
10k
C978
10 50V
D978
MTZJ-T-72-39D
16

7-21. IC PIN FUNCTION DESCRIPTION

• MAIN BOARD IC401 M30622MAA-A59 (MASTER CONTROL)

Pin No.	Pin Name	I/O	Description
1	SURROUND 1	O	Not used.
2	SURROUND 2	O	Not used.
3	SURROUND 3	O	Not used.
4	498-DATA	O	Data signal output for IC101 (M61504FP)
5	498-CLK	O	Clock signal output for IC101 (M61504FP)
6	N.C	I	Not used.
7	AC-CUT	I	AC CUT ON (L) / OFF (H) CHECK
8	GND	—	Connected to ground.
9	GND	—	Connected to ground.
10	XC IN	I	SUB CLOCK input. (32.768kHz)
11	XC OUT	O	SUB CLOCK output. (32.768kHz)
12	RESET	I	System reset input.
13	X-OUT	O	MAIN SYSTEM CLOCK output. (16MHz)
14	VSS	—	Vss
15	X-IN	I	MAIN SYSTEM CLOCK input. (16MHz)
16	VCC	—	Power supply. (+5V)
17	NMI	I	PULL UP (EVER +5V)
18	WAKE_UP	I	WAKE UP signal input. (L)
19	SCOR	I	CD Q-data request signal input.
20	RDS-INT	I	RDS interrupt signal input.
21	RDS-DATA	I	RDS data signal input.
22	ST-MUTE	O	Tuner mute signal output.
23	STEREO	I	STEREO detect signal input. L=ON, H=OF
24	TUNED	I	TUNED detect signal input. L=ON, H=OFF
25	ST-CE	O	TUNER chip eneble output.
26	ST-DOUT	O	TUNER data output.
27	ST-DIN	I	TUNER data input.
28	ST-CLK	O	TUNER clock signal output.
29	IIC_CLK	O	IIC SCL output.
30	IIC_DATA	O	IIC SDA output.
31	TXDI	—	Not used.
32	SQ-DATA	I	Subcode Q data input. (CD data)
33	SQ-CLK	I	Subcode Q data input. (CD clock)
34	RST1	I	Not used.
35	CD-DATA	O	CD data input.
36	N.C	I	Not used.
37	CD-CLK	O	CD clock input.
38	N.C	I	Not used.
39	CLOCK-OUT	I	Clock check signal input.
40	SENS	I	BD condition signal input.
41	HOLD	O	MODE signal input.
42	XLT	O	CD latch signal output.
43	XRST	O	CD reset signal output.
44	LOAD-IN	I	Loading motor control signal input.
45	LOAD-OUT	O	Loading motor control signal output.
46	OPEN	I	Tray open detect signal input.
47	CLOSE	I	Tray close detect signal input.
48	UP/DOWN SW	I	Pick-up up/down detect signal input.
49	T-SENS	I	CD table detect signal input.
50	TEST MODE	I	Not used.

Pin No.	Pin Name	I/O	Description
51	N.C	I	Not used.
52	N.C	I	Not used.
53	N.C	I	Not used.
54	N.C	I	Not used.
55	N.C	I	Not used.
56	N.C	I	Not used.
57	A TRIG	O	A deck trigger control signal output.H=ON, L-OFF
58	B TRIG	O	B deck trigger control signal output.H=ON, L-OFF
59	CAPM-H/L	O	Capstan motor High/Low speed control signal output.
60	CAPM-CONT	O	Capstan motor REV/FWD/STOP control signal output.H=REV, L=FWD/STOP
61	N.C	I	Not used.
62	VCC	—	POWER SUPPLY (+5V)
63	N.C	I	Not used.
64	VSS	—	Ground.
65	N.C	I	Not used.
66	N.C	I	Not used.
67	A HALF	I	A deck half detect signal input.
68	A PLAY	I	A deck play detect signal input.
69	B PLAY	I	B deck play detect signal input.
70	AMS-IN	I	AMS signal input. L=ON,H=OFF
71	TC-MUTE	O	Tape deck line mute ON/OFF signal output. H=ON, L=OFF
72	R/PB/PAS	I	REC/PB/PASS select signal input.
73	NR-ON/OFF	O	DOLBY NR ON/OFF signal output. H=ON, L=OFF
74	REC-MUTE	O	REC mute ON/OFF signal output. L=ON, H=OFF
75	BAIS	O	BIAS ON/OFF signal output.H=ON, L=OFF
76	EQ-H/N	O	EQ High/Normal select signal output. H=High, L=Normal
77	PB-A/B	O	Playback deckA/B select signal output. H=deckB, L=deckA
78	ALC	O	ALC ON/OFF signal output. L=ON, H=OFF
79	TC-RELAY	O	Tape deck relay ON/OFF signal output. H=ON, L=OFF
80	N.C	I	Not used.
81	STBY-RELAY	O	STANDBY relay control signal output.
82	PROTECT	I	Speaker protect signal input. L=ON, H=OFF
83	DBFB-ON/OFF	I	Not used.
84	LINE-MUTE	O	Line mute signal output. L=ON, H=OFF
85	CD-POWER	O	CD-POWER ON/OFF signal output. H=ON, L=OFF
86	F-SHIFT	O	Not used.
87	RELAY-H	O	Speaker terminal relay control signal output. H=ON, L=OFF
88	POWER	O	POWER ON/OFF signal output. H=ON, L=OFF
89	N.C	O	Not used.
90	A SHUT	O	A deck reel pulse detect signal output.
91	B SHUT	O	B deck reel pulse detect signal output.
92	SOFT-TEST	O	Not used.
93	B HALF	O	B deck half detect signal input.
94	KEY/CD ADJ	O	KEY (for jig) / CD adjust.
95	MODEL-IN	I	MODEL input.
96	AVSS	—	Analog ground.
97	SPEC-IN	I	Version select signal input.
98	VREF	—	Analog Reference Voltage
99	AVCC	—	Analog Power Supply
100	STK-MUTE	O	Power amplifier mute ON/OFF signal output. H=ON, L=OFF

• PANEL BOARD IC601 TMP88CS77F-1A68 (DISPLAY CONTROL)

Pin No.	Pin Name	I/O	Description
1	VOLUME A	I	VOLUME A signal input.
2	VOLUME B	I	VOLUME B signal input.
3	HEADPHONE	I	Head phone detect signal input. H=ON, L=OFF
4	N.C	I	Not used.
5	TUNER	O	TUNER LED driver output.(high active)
6	CD	O	CD LED driver output.(high active)
7	TAPE A/B	O	TAPE A/B LED driver output.(high active)
8	MD/VIDEO	O	MD/VIDEO LED driver output.(high active)
9-10	N.C	O	Not used.
11	GROOVE	O	GROOVE LED driver output.(high active)
12-14	N.C	O	Not used.
15	REC/PAUSE	O	REC/PAUSE LED driver output.(high active)
16	SURROUND	O	SURROUND LED driver output.(high active)
17-19	KEY0-2	I	KEY input. (AD)
20	Super Low Freq (BPF 0)	I	BPF input. (AD)
21-25	BPF1-5	I	BPF input. (AD)
26	ALL BAND	I	BPF input. (AD)
27	TIMER	O	TIMER SEL LED driver output.
28	STANDBY	O	STANDBY LED output.
29	VSS	—	Ground.
30	VASS	—	Ground.
31	AVREF	—	Analog reference voltage.
32	VDD	—	Power supply (+5V)
33-49	G17-1	O	FL gride signal output.
50	P1	O	FL segment signal output.
51	VDD VFT	—	Power supply (+5V)
52-85	P2-35	O	FL segment signal output.
86	N.C	I	Not used.
87	VKK	—	–]30V driving power for FL.
88	VDD	—	Power supply (+5V)
89	Xin	I	12.5MHz (Xin)
90	VSS	—	Ground.
91	Xout	O	12.5MHz (Xout)
92	RESET	I	RESET (low active)
93-94	N.C	I	Not used.
95	TEST	I	Connected to ground.
96	WAKE UP	O	WAKE UP signal output for master controller. (PULL UP)
97	I2C data	O	IIC SDA
98	I2C clk	O	IIC SCL
99	N.C	I	Not used.
100	SIRCS	I	Remote commander input. (input capture)

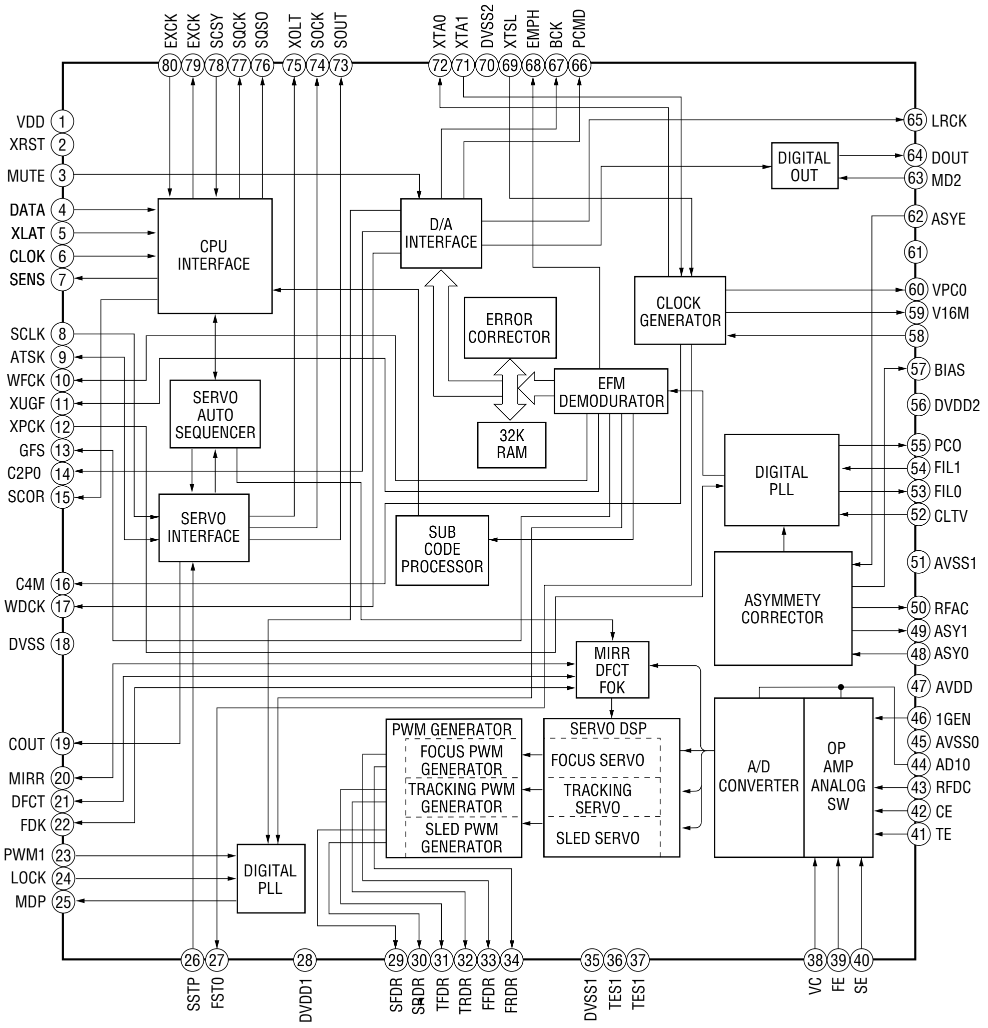
VIDEO CD BOARD IC502 M30624MCA-A34FP (CD MECHANISM CONTROLLER)

Pin No.	Pin Name	I/O	Description
1	SENSE	I	Internal status (SENSE) signal input from the CXD3008Q (IC101)
2	SENSE CLK	O	Sense serial data reading clock signal output to the CXD3008Q (IC101)
3	RESOLUTION	O	Y resolution output
4	CHROMA LEVEL	O	Chroma level output
5	DSP CLK	O	Serial data transfer clock signal output to the CXD3008Q (IC101)
6	TSENS	O	Not used (open)
7	REMOTE IN	I	Remote control signal input terminal Not used (open)
8	BYTE	I	External data bus line byte selection signal input “L”: 16 bit, “H”: 8 bit (fixed at “L”)
9	CN VSS	—	Ground terminal
10	DSP MUTE	O	Muting on/off control signal output to the CXD3008Q (IC101) “H”: muting on
11	CTRL1	O	Clock selection signal output to the CXD3008Q (IC101) “L”: 16.9344 MHz (double speed), “H”: 33.8688 MHz
12	$\overline{\text{XRESET}}$	I	Reset signal input from the system controller (IC501) “L”: reset For several hundreds msec. after the power supply rises, “L” is input, then it changes to “H”
13	XOUT	O	Main system clock output terminal (10 MHz)
14	VSS	—	Ground terminal
15	XIN	I	Main system clock input terminal (10 MHz)
16	VCC	—	Power supply terminal (+5V)
17	NMI	I	Non-maskable interrupt input terminal (fixed at “H” in this set)
18	SCOR	I	Subcode sync (S0+S1) detection signal input from the CXD3008Q (IC101)
19	DSENS	O	Not used (open)
20	$\overline{\text{CL680 HINT}}$	I	Interrupt request signal input from the MPEG video/audio decoder (IC505)
21	CL680 HSEL	O	
22	DF LATCH	O	Serial data latch pulse output to the D/A converter (IC509) “L” active
23	CL680 HRDY	—	
24	$\overline{\text{CL680 RESET}}$	O	Reset signal output to the MPEG video/audio decoder (IC505) “L”: reset
25	H.SYNC IN	I	Horizontal sync signal input
26	BGP	O	Burst gate pulse signal output
27	LPH	O	AGC hold signal output
28	LD ON	O	Laser power selection signal output to the CXA2568M (IC103) “H”: laser on
29	12C.CLK	I/O	I^{2}C clock signal from CD mechanism control (IC501).
30	12C.DATA	I/O	I^{2}C data signal from CD mechanism control (IC501).
31	DATA1O	O	Serial data output to the MPEG video/audio decoder (IC506) and D/A converter (IC509)
32	DATA1I	I	Serial data input from the MPEG video/audio decoder (IC506)
33	CLK1	O	Serial data transfer clock signal output to the MPEG video/audio decoder (IC506) and D/A converter (IC509)
34	RTS1	O	RTS signal to serial port (check connector).
35	XVLEVEL.DOWN	O	Not used (open)
36	SUBQ DATA	I	Sub-code Q data input from the CXD3008Q (IC101)
37	SUBQ CLK	O	Sub-code Q data reading clock signal output to the CXD3008Q (IC101)
38	P.ON	O	Power on/off control signal output terminal Not used (open)
39	BUS XRDY	I	Ready signal input terminal Not used (fixed at “H”)
40	BUS	O	Not used (open)
41	BUS XHOLD	I	Hold signal input terminal Not used (fixed at “H”)
42, 43	BUS	O	Not used (open)
44	OSD.LANGUAGE	I	OSD language select input terminal “H”: English, “L”: China
45	VSYNC	I	Vertical sync signal input
46	BUS XWRL	O	Bus write signal output.
47	LO.BOOST	O	Not used (open)
48	AUDIO MUTE	O	Audio muting on/off control signal output terminal “L”: muting on Not used (open)
49	LOAD OUT	O	Loading motor drive signal output terminal Not used (open)
50	LOAD IN	O	Loading motor drive signal output terminal Not used (open)
51	INSW	I	Disc detection (load in) switch input terminal Not used (fixed at “H”)

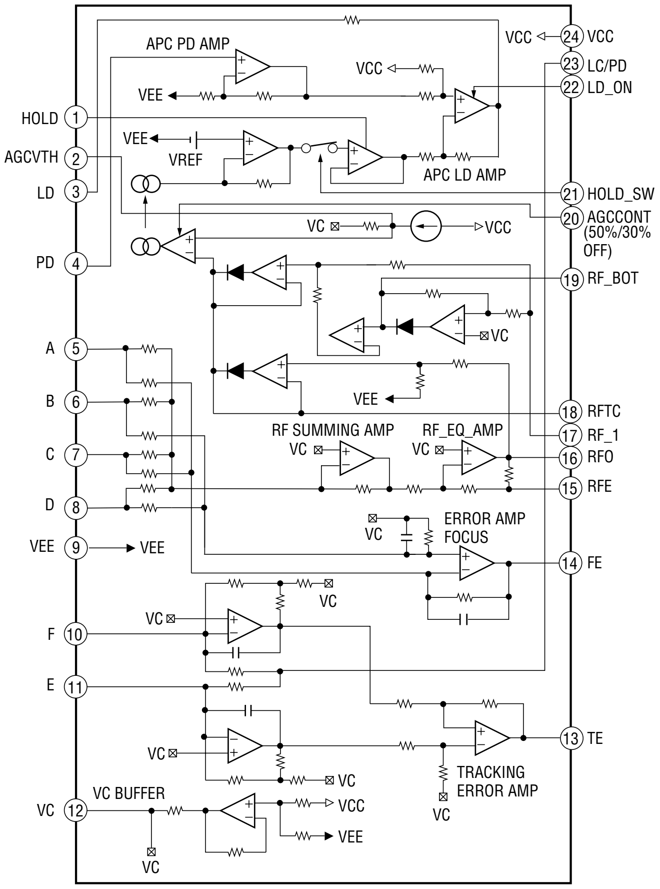
Pin No.	Pin Name	I/O	Description
52	OUTSW	I	Disc detection (load out) switch input terminal Not used (fixed at “H”)
53	MODEL1	I	Destination setting terminal (fixed at “L”)
54	MODEL2	I	Destination setting terminal (fixed at “L”)
55	TBLL	—	Not used (open)
56	TBLR	—	Not used (open)
57 to 59	ENC1 to ENC3	—	Not used (open)
60, 61		—	Not used (open)
62	VCC	—	Power supply terminal (+5V)
63		—	Not used (open)
64	VSS	—	Ground terminal
65	V.MUTE	O	Video muting on/off control signal output
66 to 72	A6 to A0	O	Address signal output for the external device
73	TEST LED	O	LED drive signal output for the self diagnosis indicator (D502) Normally: “L” (LED on)
74	TEST1	I	Setting terminal for the test mode 1 (for VCD check) Normally: fixed at “H” (“L”: test mode)
75	TEST2	I	Setting terminal for the test mode 2 (for SERVO check) Normally: fixed at “H” (“L”: test mode)
76	TEST3	I	Setting terminal for the test mode 3 Normally: fixed at “H” (“L”: test mode) Not used (fixed at “H”)
77	DEVICE RESET	O	System reset signal output to the CXD3008Q (IC101), BA5974FP (IC102) and D/A converter (IC509) “L”: reset
78	STANDBY	O	Standby on/off control signal output terminal Not used (open)
79	FL CS	O	Chip select signal output terminal Not used (open)
80	FLBLK	O	Blank control signal output terminal Not used (open)
81 to 88	D7 to D0	I/O	Two-way data bus with the external device Not used (open)
89	MIC CTRL	—	Not used.
90 to 92	KEY1 to KEY3	I	Key input terminal Not used (fixed at “H”)
93	NT/PAL	I	Video system select input terminal (open: AUTO)
94	MUSIC VOL	—	Not used.
95	DSP DATA	O	Serial data output to the CXD3008Q (IC101)
96	AVSS	—	Ground terminal (for A/D conversion)
97	DSP LATCH	O	Serial data latch pulse output to the CXD3008Q (IC101)
98	VREF	I	Reference voltage (+5V) input terminal (for A/D conversion)
99	AVCC	—	Power supply terminal (+5V) (for A/D conversion)
100	AMP ON	—	Not used.

7-23. IC BLOCK DIAGRAMS

IC101 CXD3008Q (BD BOARD)

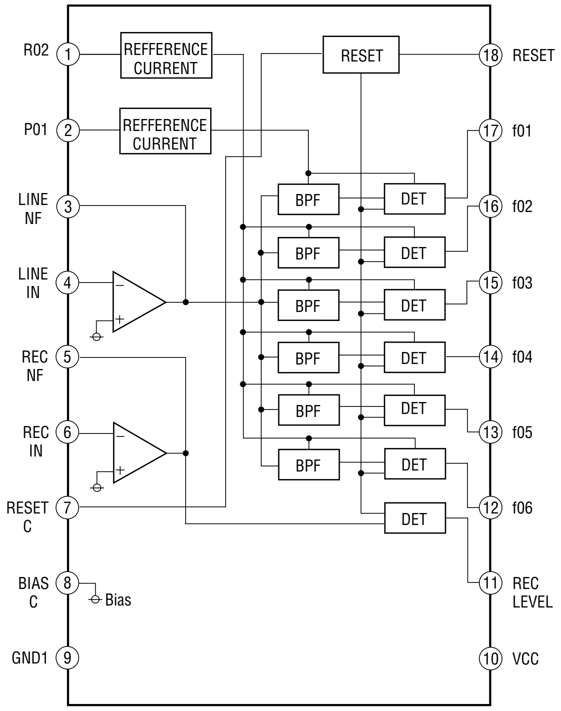

EXCK 80
EXCK 79
SCSY 78
SQCK 77
SQSO 76
XOLT 75
SOCK 74
SOUT 73
XTA0 72
XTA1 71
DVSS2 70
XTSL 69
EMPH 68
BCK 67
PCMD 66
VDD 1
XRST 2
MUTE 3
DATA 4
XLAT 5
CLOK 6
SENS 7
SCLK 8
ATSK 9
WFCK 10
XUGF 11
XPCK 12
GFS 13
C2P0 14
SCOR 15
C4M 16
WDCK 17
DVSS 18
COUT 19
MIRR 20
DFCT 21
FDK 22
PWM1 23
LOCK 24
MDP 25
65 LRCK
64 DOUT
63 MD2
62 ASYE
61
60 VPC0
59 V16M
58
57 BIAS
56 DVDD2
55 PCO
54 FIL1
53 FIL0
52 CLTV
51 AVSS1
50 RFAC
49 ASY1
48 ASY0
47 AVDD
46 1GEN
45 AVSS0
44 AD10
43 RFDC
42 CE
41 TE
26 SSTP
27 FST0
28 DVDD1
29 SFDR
30 SRDR
31 TFDR
32 TRDR
33 FFDR
34 FRDR
35 DVSS1
36 TES1
37 TES1
38 VC
39 FE
40 SE
CPU INTERFACE
D/A INTERFACE
DIGITAL OUT
ERROR CORRECTOR
CLOCK GENERATOR
EFM DEMODURATOR
32K RAM
SERVO AUTO SEQUENCER
SERVO INTERFACE
SUB CODE PROCESSOR
DIGITAL PLL
ASYMMETY CORRECTOR
MIRR DFCT FOK
PWM GENERATOR
FOCUS PWM GENERATOR
TRACKING PWM GENERATOR
SLED PWM GENERATOR
SERVO DSP
FOCUS SERVO
TRACKING SERVO
SLED SERVO
A/D CONVERTER
OP AMP ANALOG SW
DIGITAL PLL

IC103 CXA2568M (BD BOARD)



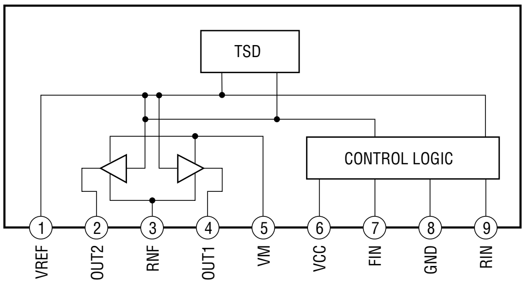
HOLD 1
AGCVTH 2
LD 3
PD 4
A 5
B 6
C 7
D 8
VEE 9
F 10
E 11
VC 12
24 VCC
23 LC/PD
22 LD_ON
21 HOLD_SW
20 AGCCONT (50%/30% OFF)
19 RF_BOT
18 RFTC
17 RF_1
16 RFO
15 RFE
14 FE
13 TE
APC PD AMP
APC LD AMP
VCC
VEE
VREF
VC
RF SUMMING AMP
RF_EQ_AMP
ERROR AMP FOCUS
TRACKING ERROR AMP
VC BUFFER

IC602 BA3830F (PANEL BOARD)



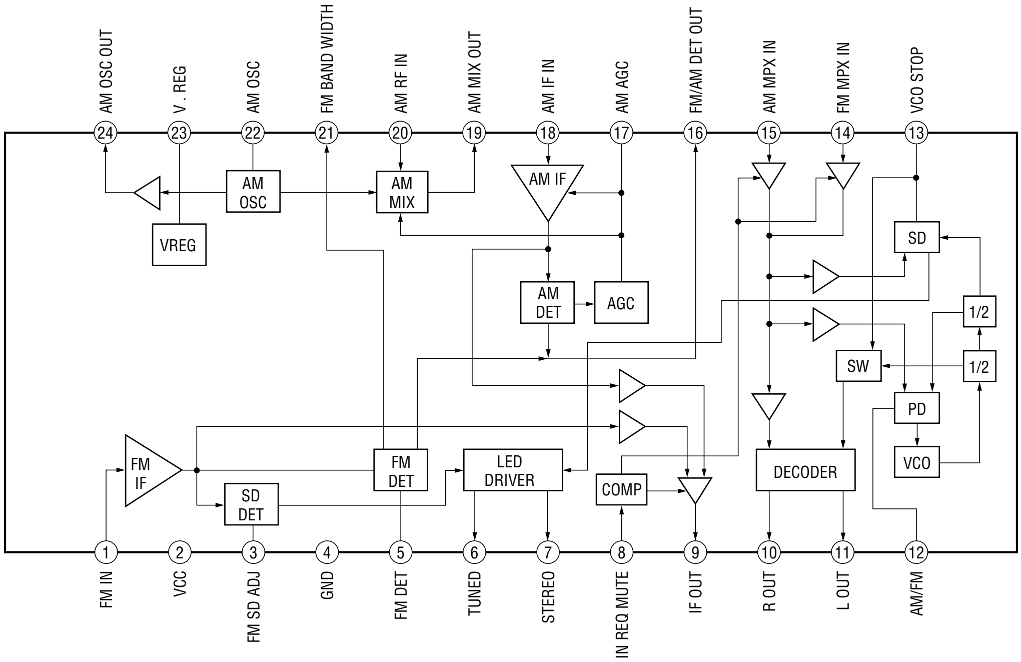
R02 1
P01 2
LINE NF 3
LINE IN 4
REC NF 5
REC IN 6
RESET C 7
BIAS C 8
GND1 9
18 RESET
17 f01
16 f02
15 f03
14 f04
13 f05
12 f06
11 REC LEVEL
10 VCC
REFFERENCE CURRENT
REFFERENCE CURRENT
RESET
BPF
DET
Bias

IC701 BA6956AN (DRIVER BOARD)

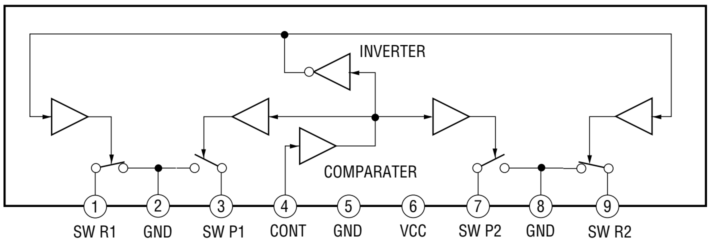


TSD
CONTROL LOGIC
1 VREF
2 OUT2
3 RNF
4 OUT1
5 VM
6 VCC
7 FIN
8 GND
9 RIN

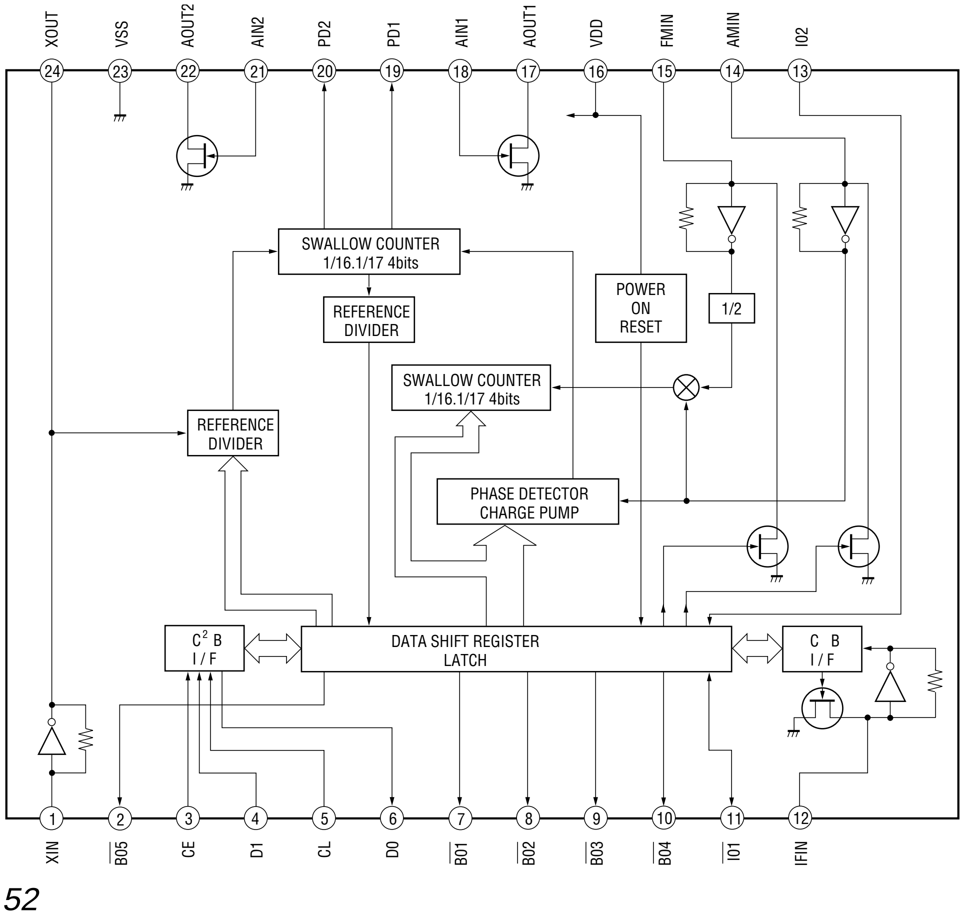
IC601 BA1450 (MAIN BOARD)


AM OSC OUT
V . REG
AM OSC
FM BAND WIDTH
AM RF IN
AM MIX OUT
AM IF IN
AM AGC
FM/AM DET OUT
AM MPX IN
FM MPX IN
VCO STOP
24
23
22
21
20
19
18
17
16
15
14
13
AM OSC
AM MIX
AM IF
VREG
SD
AM DET
AGC
1/2
SW
1/2
PD
VCO
FM IF
FM DET
LED DRIVER
SD DET
COMP
DECODER
1
2
3
4
5
6
7
8
9
10
11
12
FM IN
VCC
FM SD ADJ
GND
FM DET
TUNED
STEREO
IN REQ MUTE
IF OUT
R OUT
L OUT
AM/FM

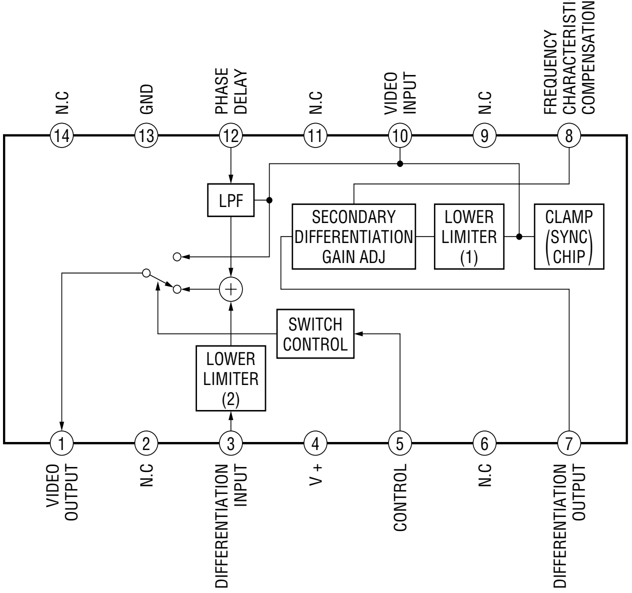
IC302 μPC1330H (MAIN BOARD)


INVERTER
COMPARATER
1
2
3
4
5
6
7
8
9
SW R1
GND
SW P1
CONT
GND
VCC
SW P2
GND
SW R2

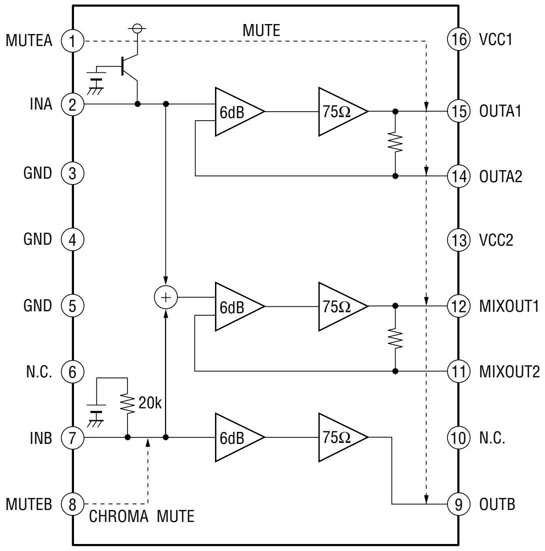
IC651 LC72130 (MAIN BOARD)


XOUT
VSS
AOUT2
AIN2
PD2
PD1
AIN1
AOUT1
VDD
FMIN
AMIN
I02
24
23
22
21
20
19
18
17
16
15
14
13
SWALLOW COUNTER 1/16.1/17 4bits
REFERENCE DIVIDER
POWER ON RESET
1/2
SWALLOW COUNTER 1/16.1/17 4bits
REFERENCE DIVIDER
PHASE DETECTOR CHARGE PUMP
C2 B I / F
DATA SHIFT REGISTER LATCH
C B I / F
1
2
3
4
5
6
7
8
9
10
11
12
XIN
B05
CE
D1
CL
D0
B01
B02
B03
B04
I01
IFIN

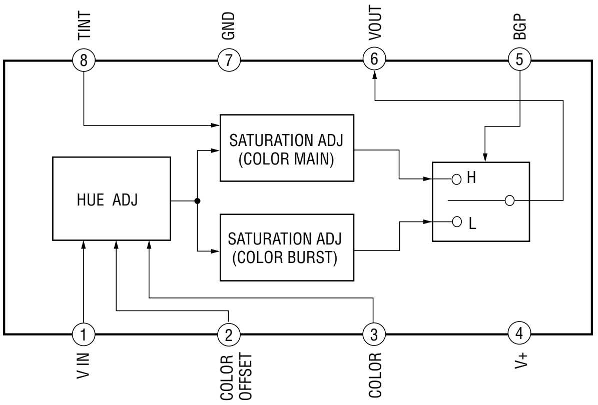
IC303 NJM2209M (VIDEO BOARD)


N.C
GND
PHASE DELAY
N.C
VIDEO INPUT
N.C
FREQUENCY CHARACTERISTIC COMPENSATION
14
13
12
11
10
9
8
LPF
SECONDARY DIFFERENTIATION GAIN ADJ
LOWER LIMITER (1)
CLAMP (SYNC CHIP)
SWITCH CONTROL
LOWER LIMITER (2)
1
2
3
4
5
6
7
VIDEO OUTPUT
N.C
DIFFERENTIATION INPUT
V +
CONTROL
N.C
DIFFERENTIATION OUTPUT

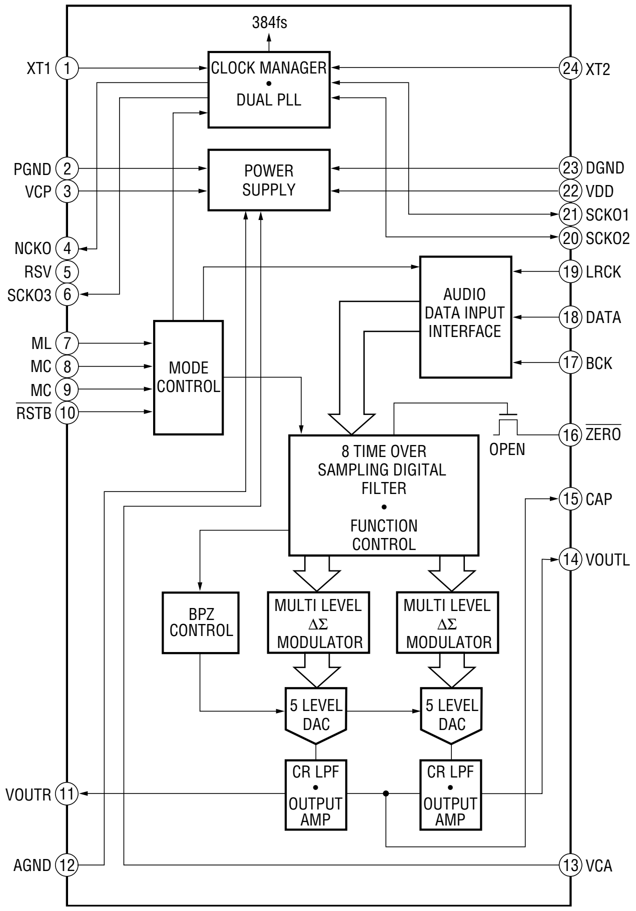
IC304 BA7665FS (VIDEO BOARD)


MUTEA
1
INA
2
GND
3
GND
4
GND
5
N.C.
6
INB
7
MUTEB
8
MUTE
6dB
75Ω
6dB
75Ω
6dB
75Ω
20k
CHROMA MUTE
16
VCC1
15
OUTA1
14
OUTA2
13
VCC2
12
MIXOUT1
11
MIXOUT2
10
N.C.
9
OUTB

IC302 NJM2255M (VIDEO BOARD)


TINT
GND
VOUT
BGP
8
7
6
5
HUE ADJ
SATURATION ADJ (COLOR MAIN)
SATURATION ADJ (COLOR BURST)
H
L
1
2
3
4
V IN
COLOR OFFSET
COLOR
V+

IC509 PCM1727 (VIDEO BOARD)


384fs
CLOCK MANAGER • DUAL PLL
POWER SUPPLY
AUDIO DATA INPUT INTERFACE
MODE CONTROL
8 TIME OVER SAMPLING DIGITAL FILTER • FUNCTION CONTROL
OPEN
BPZ CONTROL
MULTI LEVEL ΔΣ MODULATOR
MULTI LEVEL ΔΣ MODULATOR
5 LEVEL DAC
5 LEVEL DAC
CR LPF • OUTPUT AMP
CR LPF • OUTPUT AMP
XT1 1
PGND 2
VCP 3
NCKO 4
RSV 5
SCKO3 6
ML 7
MC 8
MC 9
RSTB 10
VOUTR 11
AGND 12
24 XT2
23 DGND
22 VDD
21 SCKO1
20 SCKO2
19 LRCK
18 DATA
17 BCK
16 ZERO
15 CAP
14 VOUTL
13 VCA

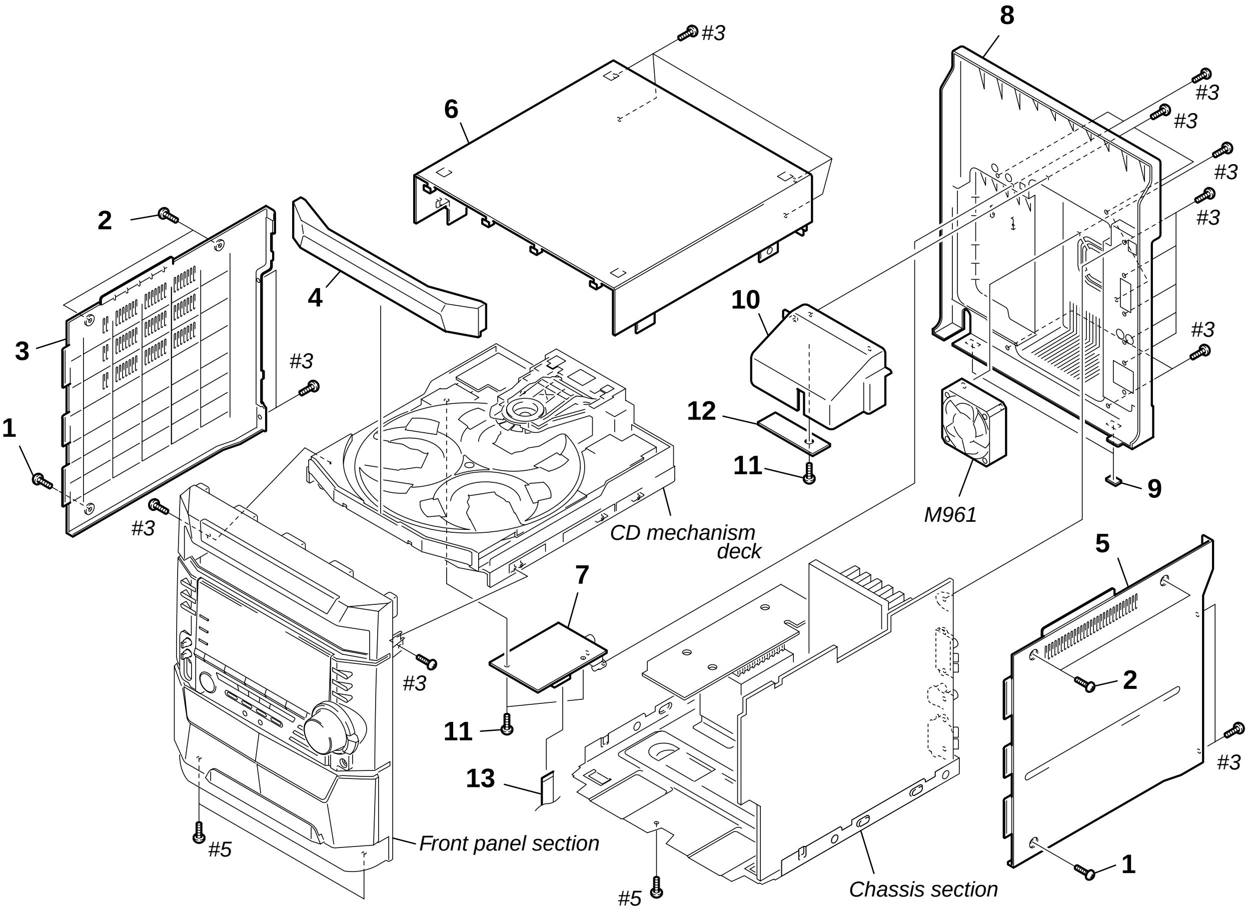
SECTION 8
EXPLODED VIEWS

NOTE:
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

- Abbreviation
  EA : Saudi Arabia model
  MY : Malaysia model
  SP : Singapore model
  TH : Thai model
  TW : Taiwan model
  IA : Indonesia model
  HK : Hong Kong model
  JE : Tourist model

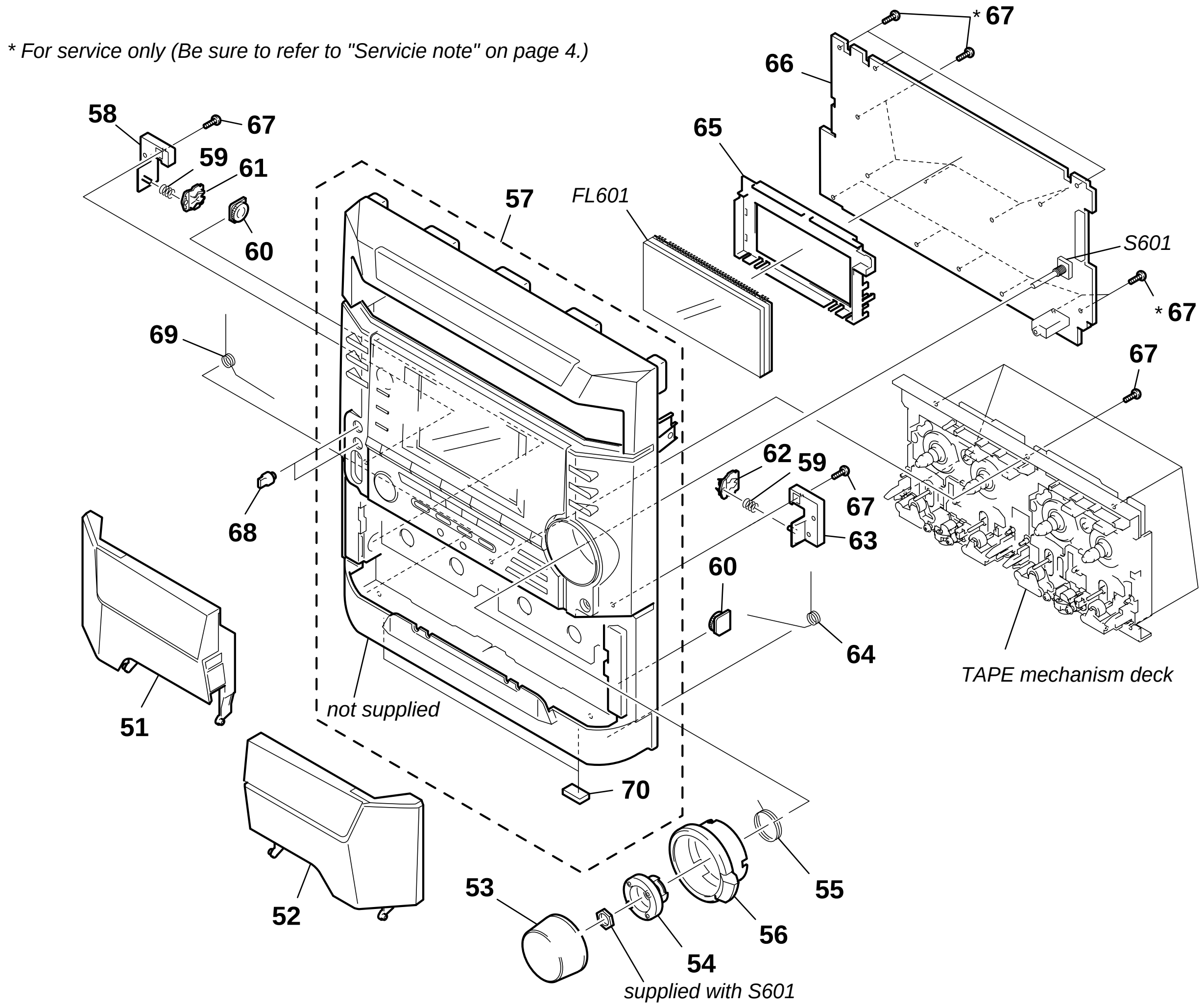
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

8-1. MAIN SECTION



Ref. No.	Part No.	Description	Remarks
1	3-363-099-01	SCREW(CASE 3 TP2)	
2	3-363-099-41	SCREW(CASE 3 TP2)	
3	4-224-549-11	CASE(SIDE-L) (IA)	
3	4-224-549-21	CASE(SIDE-L) (EXCEPT IA)	
4	X-4952-396-1	PANELASSY, LOADING (EXCEPT E)	
4	X-4952-891-1	PANEL ASSY, LOADING (E)	
5	4-224-548-11	CASE(SIDE-R) (IA)	
5	4-224-548-21	CASE(SIDE-R) (EXCEPT IA)	
6	4-224-550-11	UPPER CASE(TOP) (IA)	
6	4-224-550-41	UPPER CASE(TOP) (EXCEPT IA)	
7	A-4724-973-A	VIDEO BOARD, COMPLETE	
8	4-224-547-31	PANEL, BACK (E,EA,HK,MY,SP,TW,JE)	
8	4-224-547-51	PANEL, BACK (TH)	
8	4-226-245-41	PANEL, BACK (IA)	
9	4-225-252-01	CUSHION (FOOT)	
10	4-227-984-11	COVER (DUCT) (IA)	
10	4-227-984-21	COVER (DUCT) (EXCEPT IA)	
11	4-951-620-01	SCREW (2.6X8), +BVTP	
12	1-678-153-11	SENSOR BOARD	
13	1-792-246-11	WIRE(FLAT TYPE) (23 CORE)	
M961	1-698-792-11	FAN, DC	

8-2. PANEL SECTION

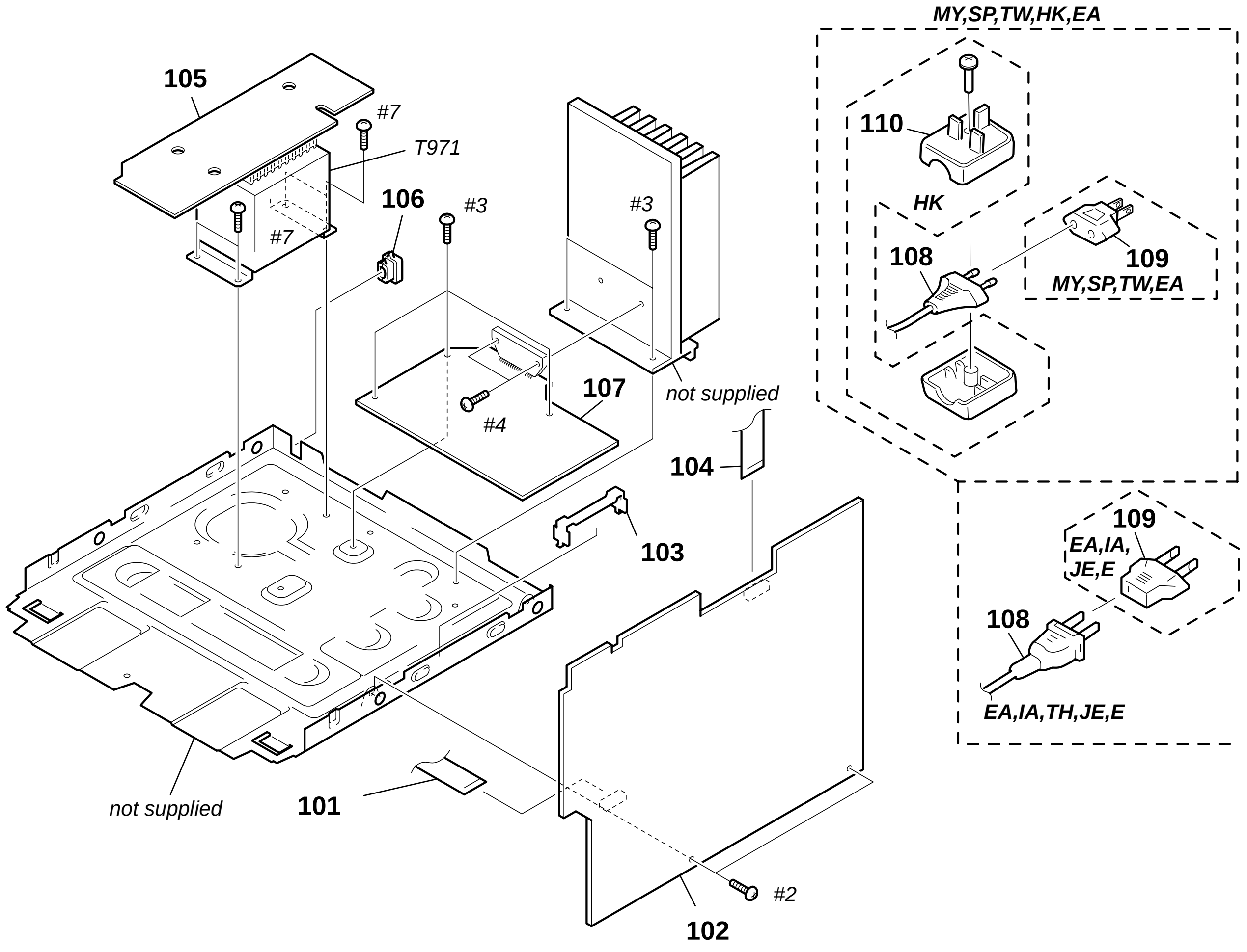


* For service only (Be sure to refer to "Servicie note" on page 4.)

*67
66
58
67
65
59
61
57
FL601
60
S601
*67
69
67
62
59
67
68
63
60
64
TAPE mechanism deck
51
not supplied
70
53
55
52
56
54
supplied with S601

Ref. No.	Part No.	Description	Remarks
51	X-4952-391-1	LID(L) ASSY, CASSETTE (IA)	
51	X-4952-958-1	LID(L) ASSY, CASSETTE	(EA,HK,MY,SP,TH,TW,JE)
51	X-4952-888-1	LID(L) ASSY, CASSETTE (E)	
52	X-4952-392-1	LID(R) ASSY, CASSETTE (IA)	
52	X-4952-959-1	LID(R) ASSY, CASSETTE	(EA,HK,MY,SP,TH,TW,JE)
52	X-4952-889-1	LID(R) ASSY, CASSETTE (E)	
53	4-224-554-01	KNOB(VOLUME)(IA)	
53	4-224-554-21	KNOB(VOLUME)(EXCEPT IA)	
54	4-225-531-01	BRACKET (RING)	
55	4-224-800-01	SPRING (JOG), TORSION	
56	4-224-556-01	RING(VOL) (IA)	
56	4-224-556-21	RING(VOL) (EXCEPT IA)	
57	X-4952-887-1	PANEL ASSY, FRONT	
58	4-224-562-01	BRACKET (HEART CAM L)	
59	4-224-803-01	SPRING (PUSH),COMPRESSION COIL	
60	4-224-104-11	DAMPER (EXCEPT IA)	
60	4-224-104-21	DAMPER (IA)	
61	4-224-560-01	CAM(L), HEART	
62	4-224-559-01	CAM(R), HEART	
63	4-224-561-01	BRACKET (HEART CAM R)	
64	4-224-801-01	SPRING (B), TORSION	
65	4-224-584-11	HOLDER (FL)	
66	A-4428-035-A	PANEL BOARD, COMPLETE	(E,EA,HK,MY,SP,TW,JE)
66	A-4428-539-A	PANEL BOARD, COMPLETE (IA)	
66	A-4428-607-A	PANEL BOARD, COMPLETE (TH)	
67	4-951-620-01	SCREW (2.6X8), +BVTP	
68	4-224-578-01	KNOB(MIC) (EXCEPT IA)	
68	4-224-578-11	KNOB(MIC) (IA)	
69	4-224-802-01	SPRING (A), TORSION	
70	4-225-252-01	CUSHION (FOOT)	
FL601	1-517-928-11	INDICATOR TUBE, FLUORESCENT	

8-3. MAIN BOARD SECTION

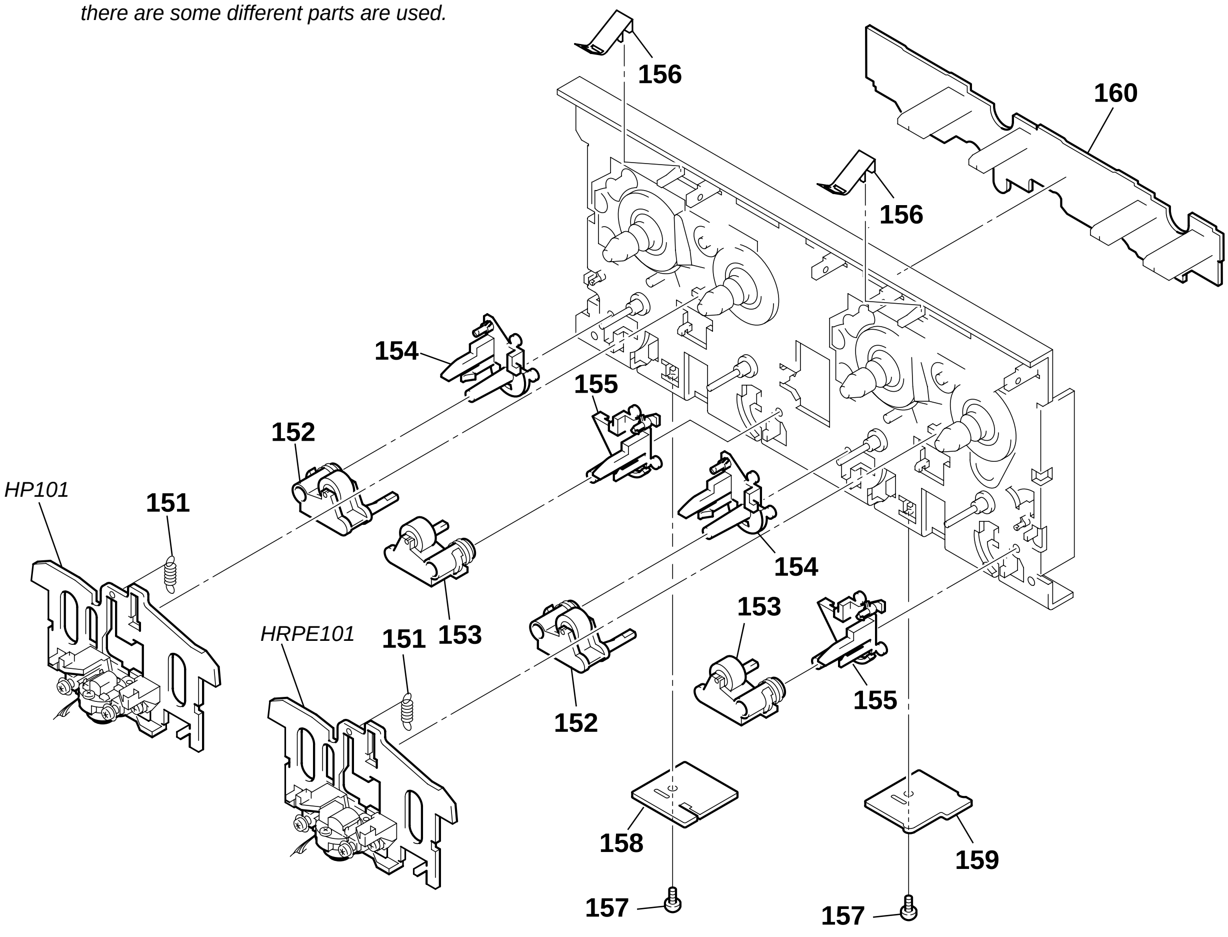

MY,SP,TW,HK,EA
105
#7
T971
106
#3
#3
110
HK
108
109
MY,SP,TW,EA
#7
107
not supplied
#4
104
103
109
EA,IA,
JE,E
108
EA,IA,TH,JE,E
not supplied
101
#2
102

Ref. No.	Part No.	Description	Remarks
101	1-773-042-11	WIRE (FLAT TYPE) (17 CORE)	
102	A-4428-031-A	MAIN BOARD, COMPLETE (HK,MY,SP)	
102	A-4428-543-A	MAIN BOARD, COMPLETE (IA)	
102	A-4428-605-A	MAIN BOARD, COMPLETE (E,EA)	
102	A-4428-611-A	MAIN BOARD, COMPLETE (TH)	
102	A-4473-582-A	MAIN BOARD, COMPLETE (JE)	
102	A-4473-589-A	MAIN BOARD, COMPLETE (TW)	
* 103	4-988-533-01	HOLDER, PWB	
104	1-769-986-11	WIRE (FLAT TYPE) (13 CORE)	
105	A-4428-542-A	TRANS BOARD, COMPLETE (IA)	
105	A-4428-604-A	TRANS BOARD, COMPLETE	(E,EA,HK,MY,SP,TW,JE)
105	A-4428-610-A	TRANS BOARD, COMPLETE (TH)	
106	3-703-571-11	BUSHING (S) (4516),CORD	(EA,TH,JE)
106	4-966-266-01	BUSHING (S) (FBS002),CORD (IA)	
106	3-703-244-00	BUSHING (2104), CORD	(E,HK,MY,SP,TW)
107	A-4428-064-A	AMP BOARD, COMPLETE	(E,EA,HK,MY,SP,TW,JE)
107	A-4428-064-A	AMP BOARD, COMPLETE (IA)	
107	A-4428-590-A	AMP BOARD, COMPLETE (TH)	
⚠108	1-791-901-11	CORD, POWER (E,TH,IA,JE)	
⚠108	1-777-071-81	CORD, POWER (EA,HK,MY,SP,TW)	
⚠109	1-569-007-11	ADAPTOR, CONVERSION 2P (E,IA,JE)	
⚠109	1-569-008-21	ADAPTOR, CONVERSION 2P (EA,MY,SP,TW)	
⚠110	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (HK)	
⚠T971	1-435-371-11	TRANSFORMER, POWER	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

8-4. TAPE MECHANISM DECK SECTION (TCM-230PWR11) (1/2)

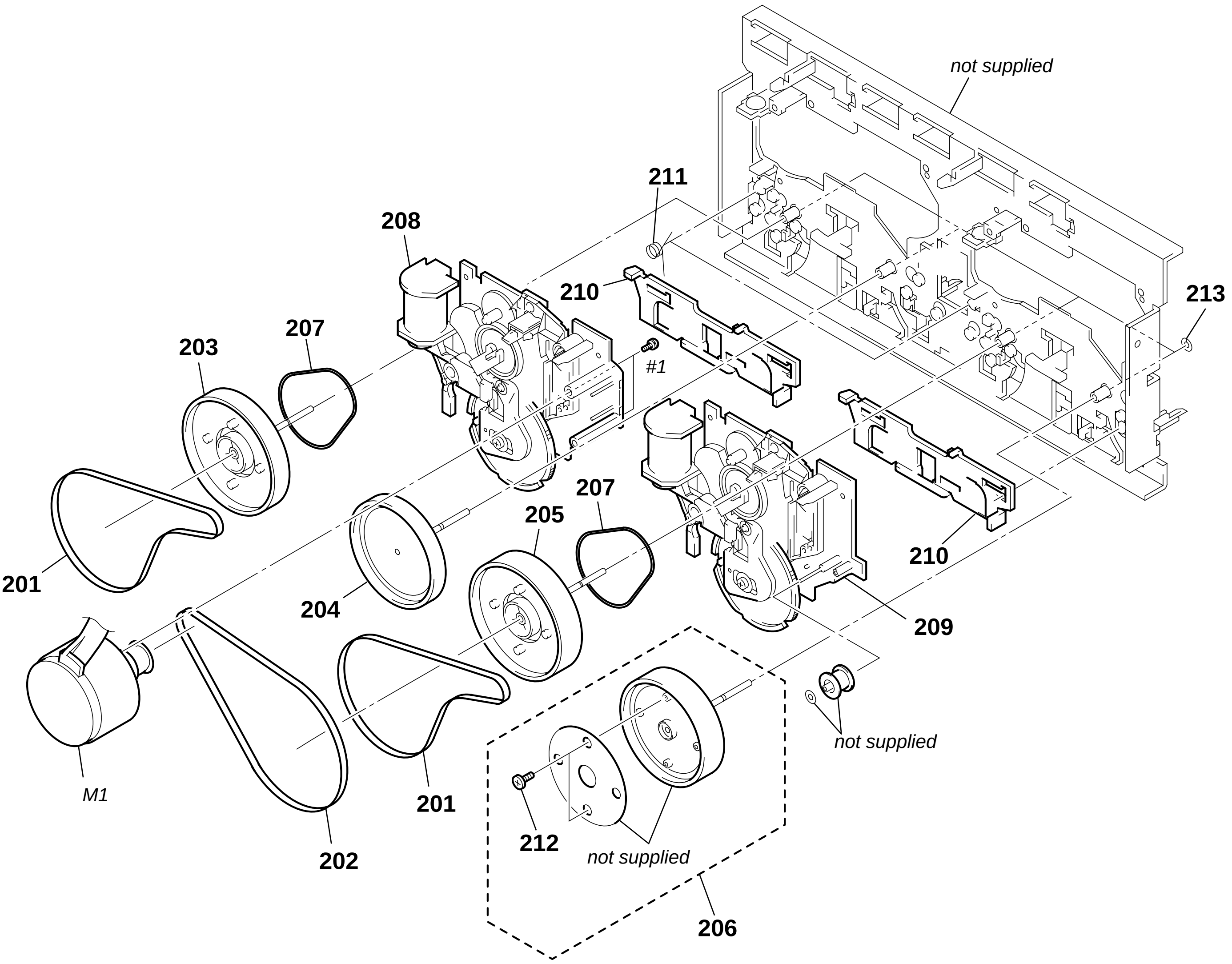
Note: *Two different types of tape mechanism are used depending on models. They maintain compatibility as an entire mechanism even though there are some different parts are used.*



Ref. No.	Part No.	Description	Remarks
151	3-016-574-01	SPRING (HEAD), TENSION	
152	X-3374-156-4	PINCH LEVER (REV) ASSY	
153	X-3374-155-4	PINCH LEVER (FWD) ASSY	
154	3-017-366-01	BASE (PINCH LEVER REV)	
155	3-017-365-01	BASE (PINCH LEVER FWD)	
156	3-016-567-02	SPRING (CASSETTE), LEAF	

Ref. No.	Part No.	Description	Remarks
157	4-227-872-01	SCREW (+PTT 2X4), GROUND POINT	
158	1-676-220-11	HEAD (A) BOARD	
159	1-676-221-11	HEAD (B) BOARD	
160	A-2007-838-A	LEAF SW BOARD, COMPLETE	
HP101	A-2004-765-A	BASE (A) ASSY, HEAD	
HRPE101	A-2004-766-A	BASE (B) ASSY, HEAD	

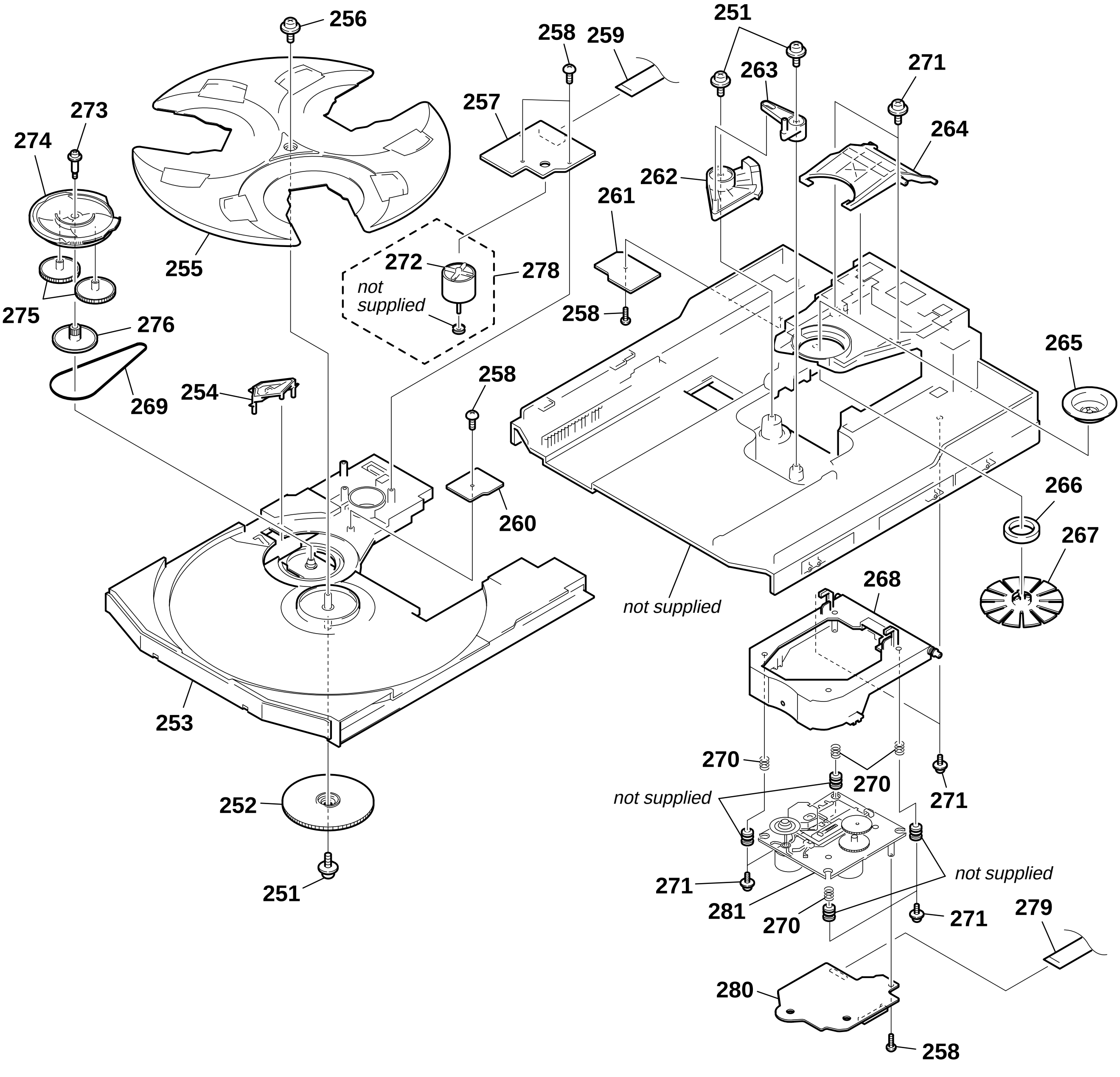
8-5. TAPE MECHANISM DECK SECTION (TCM-230PWR11) (2/2)


not supplied
211
208
210
213
207
203
#1
207
205
210
201
204
209
not supplied
M1
201
212
not supplied
202
206

Ref. No.	Part No.	Description	Remarks
201	3-041-946-01	BELT (CAPSTAN B)	
202	4-227-239-01	BELT (CAPSTAN C)	
203	X-3378-249-1	FLYWHEEL (B-FWD) ASSY	
204	X-3378-250-1	FLYWHEEL (B-REV) ASSY	
205	X-3378-247-1	FLYWHEEL (A-FWD) ASSY	
206	X-3378-248-1	FLYWHEEL (A-REV) ASSY	
207	3-041-947-01	BELT (FR)	

Ref. No.	Part No.	Description	Remarks
208	A-2004-753-A	BLOCK (B) ASSY, MECHANICAL	
209	A-2004-752-A	BLOCK (A) ASSY, MECHANICAL	
210	3-016-566-01	SLIDER, REVERSE	
211	4-228-450-01	SPRING(REVERSE SLIDER),TORSION	
212	3-372-761-01	SCREW (M1.7), TAPPING	
213	3-019-208-01	WASHER, STOPPER	
M1	X-3378-246-1	MOTOR ASSY	

8-6. CD MECHANISM DECK SECTION (CDM58-K2BD37)


256
258
259
251
263
271
273
257
264
274
262
261
272
278
not supplied
255
275
276
258
265
258
254
269
266
260
267
268
not supplied
253
270
270
not supplied
271
252
not supplied
271
281
270
271
279
251
280
258

Ref. No.	Part No.	Description	Remarks
251	4-933-134-11	SCREW (+PTPWH M2.6X8)	
252	4-221-679-01	CAM(RELAY)	
253	4-221-675-01	TABLE	
254	4-221-686-01	LEVER (CHANGE)	
255	4-221-676-01	TRAY	
256	4-933-134-51	SCREW (+PTPWH 2.6X8)	
257	1-675-910-11	MOTOR BOARD	
258	4-951-620-01	SCREW (2.6X8), +BVTP	
259	1-791-983-12	WIRE (FLAT TYPE) (8 CORE)	
260	1-675-911-11	ADDRESS SENSOR BOARD	
261	1-675-912-11	DRIVER BOARD	
262	X-4952-608-1	CAM(U/D) ASSY	
263	4-221-681-01	LEVER (EX)	
264	4-221-682-01	LEVER (LIFTER)	
265	4-221-688-01	PULLEY (B), CHUCKING	
266	1-471-035-11	MAGNET ASSY	
267	X-4952-019-1	PULLEY (A) ASSY, CHUCKING	
268	X-4951-889-1	HOLDER (BU) ASSY	
269	4-222-095-01	BELT	
270	4-227-045-01	SPRING (INSULATOR), COIL	
271	4-985-672-01	SCREW (+PTPWH M2.6), FLOATING	
272	1-541-632-11	MOTOR, DC	
274	4-221-678-01	CAM(CONTROL)	
275	4-221-683-01	GEAR (U)	
276	4-221-685-01	PULLEY (S)	
278	A-4672-826-A	MOTOR ASSY	
279	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
280	A-4725-003-A	BD BOARD, COMPLETE	
⚠281	8-820-116-01	OPICAL PICK-UP BLOCK (KSM-213DAP)	
282	4-222-097-01	SCREW, STEP	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

SECTION 9
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: μF
- COILS
  uH: μH
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA...: μA... , uPA... , μPA... ,
  uPB... , μPB... , uPC... , μPC... ,
  uPD..., μPD...
- Abbreviation
  EA : Saudi Arabia model
  MY : Malaysia model
  SP : Singapore model
  TH : Thai model
  TW : Taiwan model
  IA : Indonesia model
  HK : Hong Kong model
  JE : Tourist model

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description			Remarks
	1-675-911-11	ADDRESS SENSOR BOARD			
		**********************			
		< IC >			
IC711	8-749-014-38	PHOTO INTERRUPTER SG-264			
		< RESISTOR >			
R711	1-247-876-11	CARBON	75K	5%	1/4W
R712	1-249-409-11	CARBON	220	5%	1/4W F
R713	1-249-429-11	CARBON	10K	5%	1/4W
		< SWITCH >			
S711	1-771-821-11	SWITCH, PUSH (1 KEY)(UP/DOWN)			
**					
	A-4428-064-A	AMP BOARD, COMPLETE (IA)			
		*******************			
	A-4428-064-A	AMP BOARD, COMPLETE			
		(E,EA,HK,MY,SP,TW,JE)			
		*******************			
	A-4428-590-A	AMP BOARD, COMPLETE (TH)			
		*******************			
		< CAPACITOR >			
C501	1-126-964-11	ELECT	10uF	20.00%	50V
C502	1-162-290-31	CERAMIC	470PF	10%	50V
C503	1-162-282-31	CERAMIC	100PF	10%	50V
C504	1-128-551-11	ELECT	22uF	20.00%	25V
C507	1-136-495-11	MYLAR	0.068uF	5.00%	50V
C508	1-136-495-11	MYLAR	0.068uF	5.00%	50V
C509	1-128-560-11	ELECT	22uF	20.00%	100V
C511	1-162-306-11	CERAMIC	0.01uF	30.00%	16V
C541	1-130-777-00	MYLAR	0.1uF	10.00%	100V
C542	1-127-812-11	ELECT	3300uF	20%	63V
C543	1-164-159-11	CERAMIC	0.1uF		50V
C544	1-126-942-61	ELECT	1000uF	20.00%	25V
C545	1-128-549-11	ELECT	3300uF	20.00%	35V
C551	1-126-964-11	ELECT	10uF	20.00%	50V
C552	1-162-290-31	CERAMIC	470PF	10%	50V
C553	1-162-282-31	CERAMIC	100PF	10%	50V
C554	1-128-551-11	ELECT	22uF	20.00%	25V
C557	1-136-495-11	MYLAR	0.068uF	5.00%	50V
C558	1-136-495-11	MYLAR	0.068uF	5.00%	50V
C559	1-128-560-11	ELECT	22uF	20.00%	100V

Ref. No.	Part No.	Description			Remarks
C591	1-130-777-00	MYLAR	0.1uF	10.00%	100V
C592	1-127-812-11	ELECT	3300uF	20%	63V
		< CONNECTOR >			
CN502	1-778-981-21	CONNECTOR, BOARD TO BOARD 13P			
CN503	1-778-981-21	CONNECTOR, BOARD TO BOARD 13P			
CN504	1-785-314-11	PIN, CONNECTOR (STRAIGHT) 2P			
		< DIODE >			
D501	8-719-911-19	DIODE 1SS133T-72			
D502	8-719-911-19	DIODE 1SS133T-72			
D541	8-719-302-38	DIODE RBV-602-01			
D542	8-719-024-99	DIODE 11ES2-NTA2B			
D543	8-719-024-99	DIODE 11ES2-NTA2B			
D551	8-719-911-19	DIODE 1SS133T-72			
		< EARTH >			
* EP502	1-537-738-21	TERMINAL, EARTH			
		< IC >			
IC501	8-749-016-95	IC STK402-100S			
		< TRANSISTOR >			
Q501	8-729-140-84	TRANSISTOR	2SC1841TP-PAFAEA		
Q503	8-729-140-82	TRANSISTOR	2SA988TP-PAFAEA		
Q504	8-729-140-84	TRANSISTOR	2SC1841TP-PAFAEA		
Q551	8-729-140-84	TRANSISTOR	2SC1841TP-PAFAEA		
Q581	8-729-140-84	TRANSISTOR	2SC1841TP-PAFAEA		
Q582	8-729-119-78	TRANSISTOR	2SC2785TP-HFE		
Q583	8-729-900-36	TRANSISTOR	BA1F4M-TP		
Q584	8-729-119-78	TRANSISTOR	2SC2785TP-HFE		
		< RESISTOR >			
R501	1-249-417-11	CARBON	1K	5%	1/4W F
R502	1-249-438-11	CARBON	56K	5%	1/4W
R503	1-249-414-11	CARBON	560	5%	1/4W F
R504	1-249-438-11	CARBON	56K	5%	1/4W
R505	1-249-417-11	CARBON	1K	5%	1/4W F
R506	1-249-431-11	CARBON	15K	5%	1/4W
R507	1-249-441-11	CARBON	100K	5%	1/4W
⚠R508	1-217-156-00	METAL	0.22	20%	5W
R509	1-260-076-11	CARBON	10	5%	1/2W
⚠R510	1-217-156-00	METAL	0.22	20%	5W

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description			Remarks	
⚠R511	1-212-881-11	FUSIBLE	100	5%	1/4W	
⚠R512	1-202-972-61	FUSIBLE	1	5%	1/4W	
R514	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R515	1-249-433-11	CARBON	22K	5%	1/4W	
R516	1-249-429-11	CARBON	10K	5%	1/4W	
R517	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R518	1-249-429-11	CARBON	10K	5%	1/4W	
R520	1-249-441-11	CARBON	100K	5%	1/4W	
R521	1-249-441-11	CARBON	100K	5%	1/4W	
R522	1-249-441-11	CARBON	100K	5%	1/4W	
R523	1-249-409-11	CARBON	220	5%	1/4W	F
R524	1-247-897-11	CARBON	560K	5%	1/4W	
R525	1-249-437-11	CARBON	47K	5%	1/4W	
R541	1-260-115-11	CARBON	22K	5%	1/2W	
R551	1-249-417-11	CARBON	1K	5%	1/4W	F
R552	1-249-438-11	CARBON	56K	5%	1/4W	
R553	1-249-414-11	CARBON	560	5%	1/4W	F
R554	1-249-438-11	CARBON	56K	5%	1/4W	
R555	1-249-417-11	CARBON	1K	5%	1/4W	F
R556	1-249-431-11	CARBON	15K	5%	1/4W	
R557	1-249-441-11	CARBON	100K	5%	1/4W	
⚠R558	1-217-156-00	METAL	0.22	20%	5W	
R559	1-260-076-11	CARBON	10	5%	1/2W	
⚠R560	1-217-156-00	METAL	0.22	20%	5W	
⚠R561	1-212-881-11	FUSIBLE	100	5%	1/4W	
R581	1-249-435-11	CARBON	33K	5%	1/4W	
R582	1-249-435-11	CARBON	33K	5%	1/4W	
R591	1-260-115-11	CARBON	22K	5%	1/2W	
***						
	A-4725-003-A	BD BOARD, COMPLETE ********************				
		< CAPACITOR >				
C101	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	
C102	1-163-038-91	CERAMIC CHIP	0.1uF		25V	
C103	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	
C105	1-126-206-11	ELECT CHIP	100uF	20%	6.3V	
C106	1-164-346-11	CERAMIC CHIP	1uF		16V	
C107	1-164-346-11	CERAMIC CHIP	1uF		16V	
C108	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C109	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V	
C110	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V	
C111	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V	
C112	1-163-038-91	CERAMIC CHIP	0.1uF		25V	
C113	1-163-038-91	CERAMIC CHIP	0.1uF		25V	
C115	1-126-607-11	ELECT CHIP	47uF	20%	4V	
C116	1-126-607-11	ELECT CHIP	47uF	20%	4V	
C117	1-126-209-11	ELECT CHIP	100uF	20.00%	4V	
C118	1-163-275-11	CERAMIC CHIP	0.001uF	5.00%	50V	
C119	1-163-106-00	CERAMIC CHIP	36PF	5.00%	50V	
C120	1-109-982-11	CERAMIC CHIP	1uF	10.00%	10V	
C121	1-109-982-11	CERAMIC CHIP	1uF	10.00%	10V	
C122	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	
C123	1-163-021-91	CERAMIC CHIP	0.01uF	10.00%	50V	
C124	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V	
C126	1-124-779-00	ELECT CHIP	10uF	20%	16V	
C130	1-163-038-91	CERAMIC CHIP	0.1uF		25V	
C140	1-163-038-91	CERAMIC CHIP	0.1uF		25V	
C141	1-163-038-91	CERAMIC CHIP	0.1uF		25V	
C154	1-163-038-91	CERAMIC CHIP	0.1uF		25V	
C159	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V	
C161	1-163-038-91	CERAMIC CHIP	0.1uF		25V	
C170	1-163-038-91	CERAMIC CHIP	0.1uF		25V	
C171	1-163-038-91	CERAMIC CHIP	0.1uF		25V	
C180	1-163-137-00	CERAMIC CHIP	680PF	5%	50V	
C181	1-163-137-00	CERAMIC CHIP	680PF	5%	50V	
C182	1-163-137-00	CERAMIC CHIP	680PF	5%	50V	
C183	1-163-137-00	CERAMIC CHIP	680PF	5%	50V	
C184	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V	
C185	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V	
C186	1-128-065-11	ELECT CHIP	68uF	20.00%	10V	
C187	1-163-038-91	CERAMIC CHIP	0.1uF		25V	
		< CONNECTOR >				
CN101	1-770-706-11	CONNECTOR, FFC/FPC 23P				
CN102	1-777-937-11	CONNECTOR, FFC/FPC 16P				
		< IC >				
IC101	8-752-397-42	IC CXD3008Q				
IC102	8-759-640-22	IC BA5982FM				
IC103	8-752-085-51	IC CXA2568M-T6				
IC104	8-759-325-67	IC TC7SH04F(TE85R)				
		< COIL >				
L101	1-414-234-22	INDUCTOR CHIP	0uH			
L102	1-410-377-31	INDUCTOR CHIP	4.7uH			
		< TRANSISTOR >				
Q101	8-729-010-08	TRANSISTOR	MSB710-RT1			
		< RESISTOR >				
R101	1-216-077-91	RES-CHIP	15K	5%	1/10W	
R102	1-216-097-91	RES-CHIP	100K	5%	1/10W	
R103	1-216-077-91	RES-CHIP	15K	5%	1/10W	
R104	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R105	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R106	1-216-049-91	RES-CHIP	1K	5%	1/10W	
R107	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R108	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R109	1-216-121-91	RES-CHIP	1M	5%	1/10W	
R110	1-216-295-91	SHORT	0			
R112	1-216-025-91	RES-CHIP	100	5%	1/10W	
R123	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R124	1-216-097-91	RES-CHIP	100K	5%	1/10W	
R125	1-216-033-00	METAL CHIP	220	5%	1/10W	
R126	1-216-033-00	METAL CHIP	220	5%	1/10W	
R127	1-216-033-00	METAL CHIP	220	5%	1/10W	
R131	1-216-033-00	METAL CHIP	220	5%	1/10W	
R135	1-216-295-91	SHORT	0			
R136	1-216-295-91	SHORT	0			
R137	1-216-295-91	SHORT	0			
R138	1-216-295-91	SHORT	0			
R143	1-216-103-00	METAL CHIP	180K	5%	1/10W	
R144	1-216-103-00	METAL CHIP	180K	5%	1/10W	
R145	1-216-121-91	RES-CHIP	1M	5%	1/10W	
R146	1-216-121-91	RES-CHIP	1M	5%	1/10W	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description			Remarks
R147	1-216-041-00	METAL CHIP	470	5%	1/10W
R148	1-216-001-00	METAL CHIP	10	5%	1/10W
R149	1-216-003-11	RES-CHIP	12	5%	1/10W
R150	1-216-073-00	METAL CHIP	10K	5%	1/10W
R154	1-216-025-91	RES-CHIP	100	5%	1/10W
R155	1-216-025-91	RES-CHIP	100	5%	1/10W
R156	1-216-025-91	RES-CHIP	100	5%	1/10W
R157	1-216-025-91	RES-CHIP	100	5%	1/10W
R158	1-216-073-00	METAL CHIP	10K	5%	1/10W
R159	1-216-089-91	RES-CHIP	47K	5%	1/10W
R161	1-216-295-91	SHORT	0		
R162	1-216-101-00	METAL CHIP	150K	5%	1/10W
R171	1-216-025-91	RES-CHIP	100	5%	1/10W
R172	1-216-025-91	RES-CHIP	100	5%	1/10W
R173	1-216-025-91	RES-CHIP	100	5%	1/10W
R175	1-216-025-91	RES-CHIP	100	5%	1/10W
R180	1-216-097-91	RES-CHIP	100K	5%	1/10W
R181	1-216-100-00	RES-CHIP	130K	5%	1/10W
R182	1-216-081-00	METAL CHIP	22K	5%	1/10W
R183	1-216-081-00	METAL CHIP	22K	5%	1/10W
R184	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R185	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R186	1-216-081-00	METAL CHIP	22K	5%	1/10W
R187	1-216-081-00	METAL CHIP	22K	5%	1/10W
R188	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R189	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R190	1-216-081-00	METAL CHIP	22K	5%	1/10W
R191	1-216-081-00	METAL CHIP	22K	5%	1/10W
R192	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R193	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R194	1-216-295-91	SHORT	0		
R203	1-216-025-91	RES-CHIP	100	5%	1/10W
R204	1-216-025-91	RES-CHIP	100	5%	1/10W
R205	1-216-025-91	RES-CHIP	100	5%	1/10W
R206	1-216-295-91	SHORT	0		
		< SWITCH >			
S101	1-771-853-11	SWITCH, DETECTION (LIMIT IN)			

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Ref. No.	Part No.	Description			Remarks
	1-675-912-11	DRIVER BOARD			
		***********			
		< CAPACITOR >			
C702	1-126-964-51	ELECT	10uF	20.00%	50V
		< CONNECTOR >			
CN701	1-785-336-11	PIN, CONNECTOR(LIGHT ANGLE)10P			
CN702	1-785-550-11	CONNECTOR, FFC/FPC 8P			
		< DIODE >			
D701	8-719-109-66	DIODE MTZJ-T-77-3.3B			
		< IC >			
IC701	8-759-598-69	IC BA6956AN			
		< RESISTOR >			
R701	1-249-411-11	CARBON	330	5%	1/4W
R702	1-249-401-11	CARBON	47	5%	1/4W F

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Ref. No.	Part No.	Description			Remarks
	1-676-220-11	HEAD(A) BOARD			
		**************			
		< CONNECTOR >			
* CN1	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P			

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Ref. No.	Part No.	Description			Remarks
	1-676-221-11	HEAD(B) BOARD			
		*************			
CN2	1-564-722-11	PIN, CONNECTOR (SMALL TYPE) 6P			

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Ref. No.	Part No.	Description			Remarks
	A-2007-846-A	LEAF SW BOARD, COMPLETE			
		************************			
		< CAPACITOR >			
C1001	1-107-716-11	ELECT	33uF	20.00%	10V
		< CONNECTOR >			
CN1001	1-568-860-21	SOCKET, CONNECTOR 17P			
		< DIODE >			
D1001	8-719-911-19	DIODE 1SS133T-72			
D1002	8-719-911-19	DIODE 1SS133T-72			
		< IC >			
IC1001	8-749-014-38	PHOTO INTERRUPTER SG-264			
IC1002	8-749-014-38	PHOTO INTERRUPTER SG-264			
		< TRANSISTOR >			
Q1001	8-729-029-56	TRANSISTOR	DTA144ESA-TP		
		< RESISTOR >			
R1001	1-249-409-11	CARBON	220	5%	1/4W F
R1002	1-249-409-11	CARBON	220	5%	1/4W F
R1003	1-249-414-11	CARBON	560	5%	1/4W F
R1004	1-247-834-11	CARBON	1.3K	5%	1/4W
R1005	1-247-818-11	CARBON	300	5%	1/4W
R1006	1-247-864-11	CARBON	24K	5%	1/4W
R1007	1-247-780-00	CARBON	7.5	5%	1/4W
R1008	1-249-417-11	CARBON	1K	5%	1/4W F
		< VARIABLE RESISTOR >			
RV1001	1-241-785-11	RES, ADJ, CARBON 10K			
RV1002	1-241-785-11	RES, ADJ, CARBON 10K			
		< SWITCH >			
S1001	1-570-953-11	SWITCH, PUSH (1 KEY) (A PLAY)			
S1002	1-570-953-11	SWITCH, PUSH (1 KEY) (B PLAY)			
S1003	1-771-333-11	SWITCH, LEAF (A HALF)			
S1004	1-771-205-11	SWITCH, LEAF (A 120/70)			
S1005	1-771-205-11	SWITCH, LEAF (REC A)			

Ref. No.	Part No.	Description			Remarks
S1006	1-771-333-11	SWITCH, LEAF (B HALF)			
S1008	1-771-205-11	SWITCH, LEAF (B 120/70)			
S1009	1-771-205-11	SWITCH, LEAF (REC B)			

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Ref. No.	Part No.	Description			Remarks
	A-4428-605-A	MAIN BOARD, COMPLETE (E,EA) *********************			
	A-4428-031-A	MAIN BOARD, COMPLETE (HK,MY,SP) *********************			
	A-4428-611-A	MAIN BOARD, COMPLETE (TH) *********************			
	A-4428-543-A	MAIN BOARD, COMPLETE (IA) *********************			
	A-4473-589-A	MAIN BOARD, COMPLETE (TW) *********************			
	A-4473-582-A	MAIN BOARD, COMPLETE (JE) *********************			
	7-685-646-79	SCREW+BVTP	3X8	TYPE2 N-S	

< CAPACITOR >

Ref. No.	Part No.	Description			Remarks
C101	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C102	1-126-961-11	ELECT	2.2uF	20.00%	50V
C103	1-126-964-11	ELECT	10uF	20.00%	50V
C104	1-126-964-11	ELECT	10uF	20.00%	50V
C105	1-126-964-11	ELECT	10uF	20.00%	50V
C107	1-136-164-00	MYLAR	0.082uF	5.00%	50V
C108	1-136-164-00	MYLAR	0.082uF	5.00%	50V
C109	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C110	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C111	1-163-018-00	CERAMIC CHIP	0.0056uF	5%	50V
C112	1-126-961-11	ELECT	2.2uF	20.00%	50V
C113	1-126-957-11	ELECT	0.22uF	20.00%	50V
C115	1-136-165-00	MYLAR	0.1uF	5.00%	50V
C116	1-136-165-00	MYLAR	0.1uF	5.00%	50V
C117	1-126-964-11	ELECT	10uF	20.00%	50V
C118	1-126-961-11	ELECT	2.2uF	20.00%	50V
C121	1-126-964-11	ELECT	10uF	20.00%	50V
C122	1-126-964-11	ELECT	10uF	20.00%	50V
C123	1-126-964-11	ELECT	10uF	20.00%	50V
C124	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C131	1-136-169-00	MYLAR	0.22uF	5.00%	50V
C132	1-126-964-11	ELECT	10uF	20.00%	50V
C133	1-126-924-11	ELECT	330uF	20.00%	6.3V
C134	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C135	1-126-964-11	ELECT	10uF	20.00%	50V
C140	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C141	1-126-964-11	ELECT	10uF	20.00%	50V
C142	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C143	1-126-964-11	ELECT	10uF	20.00%	50V
C144	1-126-934-11	ELECT	220uF	20.00%	10V
C151	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C152	1-126-961-11	ELECT	2.2uF	20.00%	50V
C153	1-126-964-11	ELECT	10uF	20.00%	50V
C154	1-126-964-11	ELECT	10uF	20.00%	50V
C155	1-126-964-11	ELECT	10uF	20.00%	50V
C157	1-136-164-00	MYLAR	0.082uF	5.00%	50V
C158	1-136-164-00	MYLAR	0.082uF	5.00%	50V
C159	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C160	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C161	1-163-018-00	CERAMIC CHIP	0.0056uF	5%	50V
C162	1-126-961-11	ELECT	2.2uF	20.00%	50V
C165	1-136-165-00	MYLAR	0.1uF	5.00%	50V
C166	1-136-165-00	MYLAR	0.1uF	5.00%	50V
C167	1-126-964-11	ELECT	10uF	20.00%	50V
C171	1-126-964-11	ELECT	10uF	20.00%	50V
C172	1-126-964-11	ELECT	10uF	20.00%	50V
C181	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C182	1-126-963-11	ELECT	4.7uF	20.00%	50V
C185	1-126-960-11	ELECT	1uF	20.00%	50V
C186	1-126-960-11	ELECT	1uF	20.00%	50V
C187	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C188	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C189	1-126-963-11	ELECT	4.7uF	20.00%	50V
C199	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C201	1-126-933-11	ELECT	100uF	20.00%	16V
C202	1-126-935-11	ELECT	470uF	20.00%	16V
C203	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C204	1-126-961-11	ELECT	2.2uF	20.00%	50V
C205	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C206	1-126-961-11	ELECT	2.2uF	20.00%	50V
C207	1-126-916-11	ELECT	1000uF	20.00%	6.3V
C209	1-126-935-11	ELECT	470uF	20.00%	16V
C213	1-163-181-00	CERAMIC CHIP	100PF	5.00%	50V (TW)
C214	1-163-117-00	CERAMIC CHIP	100PF	5%	50V (TW)
C215	1-163-117-00	CERAMIC CHIP	100PF	5%	50V (TW)
C301	1-126-960-11	ELECT	1uF	20.00%	50V
C302	1-130-479-00	MYLAR	0.0047uF	5%	50V
C303	1-136-165-00	MYLAR	0.1uF	5.00%	50V
C305	1-126-964-11	ELECT	10uF	20.00%	50V
C306	1-126-960-11	ELECT	1uF	20.00%	50V
C307	1-126-960-11	ELECT	1uF	20.00%	50V
C308	1-126-964-11	ELECT	10uF	20.00%	50V
C309	1-137-194-81	MYLAR	0.47uF	5.00%	50V
C310	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C311	1-126-964-11	ELECT	10uF	20.00%	50V
C312	1-126-959-11	ELECT	0.47uF	20.00%	50V
C313	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C314	1-126-964-11	ELECT	10uF	20.00%	50V
C315	1-126-963-11	ELECT	4.7uF	20.00%	50V
C316	1-126-933-11	ELECT	100uF	20.00%	16V
C317	1-126-933-11	ELECT	100uF	20.00%	16V
C318	1-126-964-11	ELECT	10uF	20.00%	50V
C319	1-126-961-11	ELECT	2.2uF	20.00%	50V
C320	1-126-961-11	ELECT	2.2uF	20.00%	50V
C321	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C322	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C323	1-130-487-00	MYLAR	0.022uF	5%	50V
C324	1-126-964-11	ELECT	10uF	20.00%	50V
C325	1-126-965-11	ELECT	22uF	20.00%	50V
C326	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C327	1-126-933-11	ELECT	100uF	20.00%	16V
C328	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C329	1-130-483-00	MYLAR	0.01uF	5%	50V
C330	1-126-964-11	ELECT	10uF	20.00%	50V
C331	1-126-965-11	ELECT	22uF	20.00%	50V

MAIN

Ref. No.	Part No.	Description			Remarks
C332	1-137-427-11	MYLAR	120PF	5.00%	50V
C333	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C334	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C335	1-137-150-11	MYLAR	0.01uF	5.00%	100V
C336	1-126-961-11	ELECT	2.2uF	20.00%	50V
C337	1-130-485-00	MYLAR	0.015uF	5%	50V
C338	1-130-481-00	MYLAR	0.0068uF	5%	50V
C339	1-130-481-00	MYLAR	0.0068uF	5%	50V
C340	1-130-486-00	MYLAR	0.018uF	10%	50V
C341	1-126-960-11	ELECT	1uF	20.00%	50V
C342	1-104-664-11	ELECT	47uF	20.00%	16V
C351	1-126-960-11	ELECT	1uF	20.00%	50V
C352	1-130-479-00	MYLAR	0.0047uF	5%	50V
C353	1-136-165-00	MYLAR	0.1uF	5.00%	50V
C355	1-126-964-11	ELECT	10uF	20.00%	50V
C356	1-126-960-11	ELECT	1uF	20.00%	50V
C357	1-126-960-11	ELECT	1uF	20.00%	50V
C358	1-126-964-11	ELECT	10uF	20.00%	50V
C359	1-137-194-81	MYLAR	0.47uF	5.00%	50V
C360	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C362	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C363	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C368	1-126-964-11	ELECT	10uF	20.00%	50V
C369	1-126-961-11	ELECT	2.2uF	20.00%	50V
C370	1-126-961-11	ELECT	2.2uF	20.00%	50V
C371	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C372	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C373	1-130-487-00	MYLAR	0.022uF	5%	50V
C374	1-126-964-11	ELECT	10uF	20.00%	50V
C375	1-126-965-11	ELECT	22uF	20.00%	50V
C376	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C377	1-126-933-11	ELECT	100uF	20.00%	16V
C378	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C379	1-130-483-00	MYLAR	0.01uF	5%	50V
C380	1-126-964-11	ELECT	10uF	20.00%	50V
C381	1-126-965-11	ELECT	22uF	20.00%	50V
C382	1-137-427-11	MYLAR	120PF	5.00%	50V
C383	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C384	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C390	1-126-964-11	ELECT	10uF	20.00%	50V
C410	1-163-233-11	CERAMIC CHIP	18PF	5.00%	50V
C411	1-163-231-11	CERAMIC CHIP	15PF	5.00%	50V
C414	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C416	1-126-916-11	ELECT	1000uF	20.00%	6.3V
C444	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C462	1-126-933-11	ELECT	100uF	20.00%	16V
C464	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C497	1-126-964-11	ELECT	10uF	20.00%	50V
C498	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C501	1-136-165-00	MYLAR	0.1uF	5.00%	50V
C502	1-136-165-00	MYLAR	0.1uF	5.00%	50V
C503	1-126-964-11	ELECT	10uF	20.00%	50V
C504	1-109-953-11	ELECT	2.2uF	20.00%	50V
C505	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C506	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C601	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C602	1-163-031-11	CERAMIC CHIP	0.01uF		50V

(JE)

Ref. No.	Part No.	Description			Remarks
C603	1-104-664-11	ELECT	47uF	20.00%	16V
C604	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C605	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C611	1-104-664-11	ELECT	47uF	20.00%	16V
C612	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C613	1-126-960-11	ELECT	1uF	20.00%	50V
C614	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C615	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C616	1-163-021-91	CERAMIC CHIP	0.01uF	10.00%	50V
C617	1-163-021-91	CERAMIC CHIP	0.01uF	10.00%	50V
C618	1-126-957-11	ELECT	0.22uF	20.00%	50V
C619	1-163-075-00	CERAMIC CHIP	0.047uF	50V	
C620	1-126-962-11	ELECT	3.3uF	20.00%	50V
C621	1-126-962-11	ELECT	3.3uF	20.00%	50V
C622	1-104-664-11	ELECT	47uF	20.00%	16V
C623	1-126-964-11	ELECT	10uF	20.00%	50V
C624	1-126-960-11	ELECT	1uF	20.00%	50V
C625	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C626	1-104-760-11	CERAMIC CHIP	0.047uF	10.00%	50V
C628	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C629	1-126-965-11	ELECT	22uF	20.00%	50V
C630	1-126-964-11	ELECT	10uF	20.00%	50V
C631	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C632	1-126-933-11	ELECT	100uF	20.00%	16V
C633	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C634	1-163-016-00	CERAMIC CHIP	0.0039uF	10%	50V
C635	1-163-016-00	CERAMIC CHIP	0.0039uF	10%	50V
C636	1-163-021-91	CERAMIC CHIP	0.01uF	10.00%	50V
C637	1-163-021-91	CERAMIC CHIP	0.01uF	10.00%	50V
C641	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C644	1-163-087-00	CERAMIC CHIP	4PF		50V
C645	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C651	1-163-239-11	CERAMIC CHIP	33PF	5.00%	50V
C652	1-163-235-11	CERAMIC CHIP	22PF	5.00%	50V
C653	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C655	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C656	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C657	1-104-664-11	ELECT	47uF	20.00%	16V
C658	1-126-961-11	ELECT	2.2uF	20.00%	50V
C659	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C660	1-104-664-11	ELECT	47uF	20.00%	16V
C661	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C662	1-126-959-11	ELECT	0.47uF	20.00%	50V
C663	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C669	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C803	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C821	1-126-933-11	ELECT	100uF	20.00%	16V
C822	1-126-961-11	ELECT	2.2uF	20.00%	50V
C824	1-126-961-11	ELECT	2.2uF	20.00%	50V
C841	1-126-959-11	ELECT	0.47uF	20.00%	50V
C853	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C861	1-107-717-11	ELECT	47uF	20.00%	50V
C862	1-107-721-11	ELECT	4.7uF	20.00%	100V
C863	1-107-721-11	ELECT	4.7uF	20.00%	100V
C901	1-128-548-11	ELECT	4700uF	20.00%	25V
C902	1-136-165-00	MYLAR	0.1uF	5.00%	50V
C903	1-136-165-00	MYLAR	0.1uF	5.00%	50V
C905	1-130-483-00	MYLAR	0.01uF	5%	50V

Ref. No.	Part No.	Description			Remarks
C906	1-130-483-00	MYLAR	0.01uF	5%	50V
C907	1-126-943-11	ELECT	2200uF	20.00%	25V
C911	1-126-964-11	ELECT	10uF	20.00%	50V
C912	1-126-917-11	ELECT	3300uF	20.00%	6.3V
C921	1-126-964-11	ELECT	10uF	20.00%	50V
C922	1-126-933-11	ELECT	100uF	20.00%	16V
C932	1-126-935-11	ELECT	470uF	20.00%	16V
C951	1-126-964-11	ELECT	10uF	20.00%	50V
C952	1-126-933-11	ELECT	100uF	20.00%	16V
C961	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C962	1-126-963-11	ELECT	4.7uF	20.00%	50V
C971	1-126-964-11	ELECT	10uF	20.00%	50V
C972	1-126-926-11	ELECT	1000uF	20.00%	10V
		< FILTER >			
CF601	1-760-023-11	FILTER, CERAMIC			
CF602	1-760-023-11	FILTER, CERAMIC			
		< CONNECTOR >			
CN201	1-784-735-11	CONNECTOR, FFC 13P			
CN202	1-785-336-11	PIN, CONNECTOR(LIGHT ANGLE)10P			
* CN301	1-568-449-11	HOUSING, CONNECTOR(PC BOARD)3P			
CN304	1-784-778-11	CONNECTOR, FFC 17P			
CN401	1-793-766-11	CONNECTOR, BOARD TO BOARD 30P			
CN901	1-778-982-21	CONNECTOR, BOARD TO BOARD 13P			
CN902	1-778-982-21	CONNECTOR, BOARD TO BOARD 13P			
* CN903	1-564-506-11	PLUG, CONNECTOR 3P			
		< DIODE >			
D501	8-719-988-61	DIODE 1SS355TE-17			
D502	8-719-988-61	DIODE 1SS355TE-17			
D503	8-719-988-61	DIODE 1SS355TE-17			
D504	8-719-988-61	DIODE 1SS355TE-17			
D505	8-719-988-61	DIODE 1SS355TE-17			
D506	8-719-988-61	DIODE 1SS355TE-17			
D507	8-719-988-61	DIODE 1SS355TE-17			
D508	8-719-988-61	DIODE 1SS355TE-17			
D601	8-719-056-83	DIODE UDZ-TE-17-6.8B			
D641	8-719-914-42	DIODE DA204K-T-146			
D651	8-719-988-61	DIODE 1SS355TE-17			
D801	8-719-988-61	DIODE 1SS355TE-17			
D822	8-719-988-61	DIODE 1SS355TE-17			
D841	8-719-988-61	DIODE 1SS355TE-17			
D861	8-719-988-61	DIODE 1SS355TE-17			
D901	8-719-210-21	DIODE 11EQS04-NTA2B			
D902	8-719-210-21	DIODE 11EQS04-NTA2B			
D903	8-719-210-21	DIODE 11EQS04-NTA2B			
D904	8-719-210-21	DIODE 11EQS04-NTA2B			
D906	8-719-200-82	DIODE 11ES2-TB5			
D907	8-719-200-82	DIODE 11ES2-TB5			
D908	8-719-200-82	DIODE 11ES2-TB5			
D909	8-719-200-82	DIODE 11ES2-TB5			
D931	8-719-200-82	DIODE 11ES2-TB5			
D932	8-719-200-82	DIODE 11ES2-TB5			
D933	8-719-200-82	DIODE 11ES2-TB5			
D951	8-719-988-61	DIODE 1SS355TE-17			
D952	8-719-988-61	DIODE 1SS355TE-17			
D953	8-719-988-61	DIODE 1SS355TE-17			

Ref. No.	Part No.	Description		Remarks
D961	8-719-988-61	DIODE 1SS355TE-17		
		< FERRITE BEAD >		
FB201	1-216-295-91	SHORT	0	
FB202	1-216-295-91	SHORT	0	
FB203	1-216-295-91	SHORT	0	
FB204	1-216-295-91	SHORT	0	
FB416	1-216-295-91	SHORT	0	
FB462	1-216-295-91	SHORT	0	
FB499	1-216-295-91	SHORT	0	
		< FRONT END >		
FE601	1-693-507-11	FRONT END (JE)		
FE602	1-693-478-11	FRONT END (FM3 GANGS)(EXCEPT JE)		
		< IC >		
IC101	8-759-652-04	IC M61504FP-TP		
IC102	8-759-099-06	IC M5218AFP-TE1		
IC103	8-759-652-01	IC LA2615		
IC104	8-759-099-06	IC M5218AFP-TE1		
IC201	8-749-923-04	IC TOTX178A		
IC301	8-759-652-80	IC HA12227F		
IC302	8-759-143-54	IC uPC1330HA		
IC303	8-759-656-83	IC NJM4580MD-TE		
IC304	8-759-656-83	IC NJM4580MD-TE		
IC401	8-759-677-42	IC M30622MAA-A59		
IC501	8-759-635-63	IC M51943BSL-TP		
IC601	8-759-652-00	IC BA1450		
IC651	8-759-288-54	IC LC72130		
IC911	8-759-039-69	IC uPC7805AHF		
IC921	8-759-088-08	IC uPC7812AHF		
IC951	8-759-039-69	IC uPC7805AHF		
IC971	8-759-701-59	IC M5F7809L		
		< IFT >		
IFT601	1-435-295-11	TRANSFORMER, IF		
		< JACK >		
J101	1-793-987-11	JACK, PIN 2P		
		< JUMPER RESISTOR >		
JR1	1-216-296-91	SHORT	0	
JR2	1-216-296-91	SHORT	0	
JR3	1-216-296-91	SHORT	0	
JR4	1-216-296-91	SHORT	0	
JR6	1-216-295-91	SHORT	0	
JR7	1-216-296-91	SHORT	0	
JR8	1-216-295-91	SHORT	0	
JR9	1-216-296-91	SHORT	0	
JR10	1-216-296-91	SHORT	0	
JR11	1-216-296-91	SHORT	0	
JR12	1-216-296-91	SHORT	0	
JR13	1-216-296-91	SHORT	0	
JR14	1-216-296-91	SHORT	0	
JR15	1-216-296-91	SHORT	0	
JR16	1-216-295-91	SHORT	0	

MAIN

Ref. No.	Part No.	Description		Remarks
JR17	1-216-296-91	SHORT	0	
JR18	1-216-295-91	SHORT	0	
JR19	1-216-296-91	SHORT	0	
JR20	1-216-295-91	SHORT	0	
JR21	1-216-295-91	SHORT	0	
JR601	1-216-296-91	SHORT	0	
JR609	1-216-295-91	SHORT	0	
JR602	1-216-295-91	SHORT	0	
JR603	1-216-296-91	SHORT	0	
JR604	1-216-296-91	SHORT	0	
JR605	1-216-296-91	SHORT	0	
JR606	1-216-296-91	SHORT	0	
JR607	1-216-295-91	SHORT	0	
JR608	1-216-296-91	SHORT	0	
JR611	1-216-296-91	SHORT	0	
JR612	1-216-295-91	SHORT	0	
JR615	1-216-295-91	SHORT	0	
JR616	1-216-295-91	SHORT	0	
JR619	1-216-295-91	SHORT	0	
JR632	1-216-295-91	SHORT	0	
JR634	1-216-295-91	SHORT	0	
JR640	1-216-295-91	SHORT	0	
JR911	1-216-295-91	SHORT	0	
JR922	1-216-295-91	SHORT	0	
JR923	1-216-295-91	SHORT	0	
JR924	1-216-295-91	SHORT	0	
		< COIL >		
L201	1-414-189-31	INDUCTOR	100uH	
L301	1-410-780-11	INDUCTOR	27MH	
L302	1-414-193-41	INDUCTOR	220uH	
L303	1-414-193-41	INDUCTOR	220uH	
L351	1-410-780-11	INDUCTOR	27MH	
L642	1-216-296-91	SHORT	0	
		< FILTER >		
LPF601	1-234-458-11	FILTER, LOW PASS		
LPF602	1-234-458-11	FILTER, LOW PASS		
		< TRANSISTOR >		
Q101	8-729-119-78	TRANSISTOR	2SC2785TP-HFE	
Q102	8-729-045-44	TRANSISTOR	2SK1132-T	
Q103	8-729-141-30	TRANSISTOR	2SC3623ATP-LK	
Q141	8-729-119-78	TRANSISTOR	2SC2785TP-HFE	
Q151	8-729-119-78	TRANSISTOR	2SC2785TP-HFE	
Q152	8-729-045-44	TRANSISTOR	2SK1132-T	
Q153	8-729-141-30	TRANSISTOR	2SC3623ATP-LK	
Q301	8-729-801-93	TRANSISTOR	2SD1387-34-TP	
Q302	8-729-142-46	TRANSISTOR	2SC2001TP-LK	
Q303	8-729-142-46	TRANSISTOR	2SC2001TP-LK	
Q304	8-729-900-63	TRANSISTOR	BN1F4M-TP	
Q305	8-729-900-80	TRANSISTOR	BA1A4M-TP	
Q391	8-729-140-04	TRANSISTOR	2SB1116-TP-LK	
Q392	8-729-900-80	TRANSISTOR	BA1A4M-TP	
Q393	8-729-140-04	TRANSISTOR	2SB1116-TP-LK	
Q394	8-729-900-80	TRANSISTOR	BA1A4M-TP	
Q395	8-729-900-80	TRANSISTOR	BA1A4M-TP	

Ref. No.	Part No.	Description			Remarks
Q396	8-729-116-57	TRANSISTOR	2SB1068TP-K		
Q397	8-729-900-80	TRANSISTOR	BA1A4M-TP		
Q501	8-729-119-78	TRANSISTOR	2SC2785TP-HFE		
Q503	8-729-900-80	TRANSISTOR	BA1A4M-TP		
Q504	8-729-900-63	TRANSISTOR	BN1F4M-TP		
Q505	8-729-900-80	TRANSISTOR	BA1A4M-TP		
Q601	8-729-201-27	TRANSISTOR	2SC2715Y-TE85L		
Q602	8-729-422-57	TRANSISTOR	BN1A4M-TP		
Q611	8-729-120-28	TRANSISTOR	2SC2412K-T-146-QR		
Q612	8-729-120-28	TRANSISTOR	2SC2412K-T-146-QR		
Q821	8-729-119-78	TRANSISTOR	2SC2785TP-HFE		
Q822	8-729-119-78	TRANSISTOR	2SC2785TP-HFE		
Q823	8-729-119-76	TRANSISTOR	2SA1175TP-HFE		
Q824	8-729-900-80	TRANSISTOR	BA1A4M-TP		
Q825	8-729-119-78	TRANSISTOR	2SC2785TP-HFE		
Q828	8-729-119-78	TRANSISTOR	2SC2785TP-HFE		
Q829	8-729-119-78	TRANSISTOR	2SC2785TP-HFE		
Q861	8-729-900-63	TRANSISTOR	BN1F4M-TP		
Q862	8-729-141-30	TRANSISTOR	2SC3623ATP-LK		
Q863	8-729-141-30	TRANSISTOR	2SC3623ATP-LK		
Q911	8-729-141-83	TRANSISTOR	2SB1375		
Q912	8-729-900-80	TRANSISTOR	BA1A4M-TP		
Q961	8-729-119-78	TRANSISTOR	2SC2785TP-HFE		
Q962	8-729-140-04	TRANSISTOR	2SB1116-TP-LK		
		< RESISTOR >			
R101	1-216-049-91	RES-CHIP	1K	5%	1/10W
R102	1-216-097-91	RES-CHIP	100K	5%	1/10W
R103	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R104	1-216-073-00	METAL CHIP	10K	5%	1/10W
R107	1-216-113-00	METAL CHIP	470K	5%	1/10W
R108	1-216-097-91	RES-CHIP	100K	5%	1/10W
R109	1-216-073-00	METAL CHIP	10K	5%	1/10W
R110	1-216-202-00	RES-CHIP	1.5K	5%	1/8W
R111	1-216-073-00	METAL CHIP	10K	5%	1/10W
R112	1-216-089-91	RES-CHIP	47K	5%	1/10W
R113	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R114	1-216-097-91	RES-CHIP	100K	5%	1/10W
R115	1-216-073-00	METAL CHIP	10K	5%	1/10W
R116	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R121	1-216-075-00	METAL CHIP	12K	5%	1/10W
R122	1-216-073-00	METAL CHIP	10K	5%	1/10W
R123	1-216-073-00	METAL CHIP	10K	5%	1/10W
R124	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R125	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R132	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R133	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R134	1-216-049-91	RES-CHIP	1K	5%	1/10W
R141	1-216-049-91	RES-CHIP	1K	5%	1/10W
R142	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R143	1-216-089-91	RES-CHIP	47K	5%	1/10W
R144	1-216-041-00	METAL CHIP	470	5%	1/10W
R145	1-216-190-00	RES-CHIP	470	5%	1/8W
R146	1-216-041-00	METAL CHIP	470	5%	1/10W
R147	1-216-049-91	RES-CHIP	1K	5%	1/10W
R151	1-216-049-91	RES-CHIP	1K	5%	1/10W

Ref. No.	Part No.	Description			Remarks
R152	1-216-097-91	RES-CHIP	100K	5%	1/10W
R153	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R154	1-216-222-00	RES-CHIP	10K	5%	1/8W
R157	1-216-113-00	METAL CHIP	470K	5%	1/10W
R158	1-216-097-91	RES-CHIP	100K	5%	1/10W
R159	1-216-073-00	METAL CHIP	10K	5%	1/10W
R160	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R161	1-216-073-00	METAL CHIP	10K	5%	1/10W
R162	1-216-089-91	RES-CHIP	47K	5%	1/10W
R163	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R164	1-216-097-91	RES-CHIP	100K	5%	1/10W
R165	1-216-073-00	METAL CHIP	10K	5%	1/10W
R166	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R171	1-216-075-00	METAL CHIP	12K	5%	1/10W
R172	1-216-073-00	METAL CHIP	10K	5%	1/10W
R173	1-216-073-00	METAL CHIP	10K	5%	1/10W
R175	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R181	1-216-073-00	METAL CHIP	10K	5%	1/10W
R182	1-216-073-00	METAL CHIP	10K	5%	1/10W
R201	1-216-025-91	RES-CHIP	100	5%	1/10W
R202	1-216-085-00	METAL CHIP	33K	5%	1/10W
R203	1-216-025-91	RES-CHIP	100	5%	1/10W
R204	1-216-085-00	METAL CHIP	33K	5%	1/10W
R205	1-216-085-00	METAL CHIP	33K	5%	1/10W
R301	1-216-079-00	METAL CHIP	18K	5%	1/10W
R302	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R303	1-216-025-91	RES-CHIP	100	5%	1/10W
R304	1-216-025-91	RES-CHIP	100	5%	1/10W
R305	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R306	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R307	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R308	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R309	1-216-081-00	METAL CHIP	22K	5%	1/10W
R311	1-216-121-91	RES-CHIP	1M	5%	1/10W
R312	1-216-102-00	RES-CHIP	160K	5%	1/10W
R314	1-216-295-91	SHORT	0		
R315	1-216-073-00	METAL CHIP	10K	5%	1/10W
R316	1-216-235-00	RES-CHIP	36K	5%	1/8W
R317	1-216-222-00	RES-CHIP	10K	5%	1/8W
R318	1-216-073-00	METAL CHIP	10K	5%	1/10W
R319	1-216-111-00	METAL CHIP	390K	5%	1/10W
R320	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R321	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R331	1-216-099-00	METAL CHIP	120K	5%	1/10W
R332	1-216-025-91	RES-CHIP	100	5%	1/10W
R333	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R334	1-216-100-00	RES-CHIP	130K	5%	1/10W
R335	1-216-033-00	METAL CHIP	220	5%	1/10W
R336	1-216-099-00	METAL CHIP	120K	5%	1/10W
R337	1-216-033-00	METAL CHIP	220	5%	1/10W
R338	1-216-081-00	METAL CHIP	22K	5%	1/10W
R339	1-216-075-00	METAL CHIP	12K	5%	1/10W
R340	1-216-107-00	METAL CHIP	270K	5%	1/10W
R341	1-216-033-00	METAL CHIP	220	5%	1/10W
R342	1-216-075-00	METAL CHIP	12K	5%	1/10W
⚠R343	1-219-787-17	FUSIBLE	5.6	5%	1/4W
⚠R344	1-219-787-17	FUSIBLE	5.6	5%	1/4W
R345	1-216-079-00	METAL CHIP	18K	5%	1/10W
R346	1-216-079-00	METAL CHIP	18K	5%	1/10W
R347	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R351	1-216-079-00	METAL CHIP	18K	5%	1/10W
R352	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R353	1-216-025-91	RES-CHIP	100	5%	1/10W
R354	1-216-025-91	RES-CHIP	100	5%	1/10W
R355	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R356	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R357	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R358	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R359	1-216-085-00	METAL CHIP	33K	5%	1/10W
R360	1-216-045-00	METAL CHIP	680	5%	1/10W
R361	1-216-049-91	RES-CHIP	1K	5%	1/10W
R363	1-216-049-91	RES-CHIP	1K	5%	1/10W
R364	1-216-045-00	METAL CHIP	680	5%	1/10W
R366	1-216-049-91	RES-CHIP	1K	5%	1/10W
R367	1-216-089-91	RES-CHIP	47K	5%	1/10W
R371	1-216-238-91	RES-CHIP	47K	5%	1/8W
R373	1-216-049-91	RES-CHIP	1K	5%	1/10W
R374	1-216-089-91	RES-CHIP	47K	5%	1/10W
R375	1-216-094-00	RES-CHIP	75K	5%	1/10W
R377	1-216-089-91	RES-CHIP	47K	5%	1/10W
R378	1-216-094-00	RES-CHIP	75K	5%	1/10W
R381	1-216-099-00	METAL CHIP	120K	5%	1/10W
R382	1-216-025-91	RES-CHIP	100	5%	1/10W
R383	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R384	1-216-100-00	RES-CHIP	130K	5%	1/10W
R385	1-216-296-91	SHORT	0		
R386	1-216-099-00	METAL CHIP	120K	5%	1/10W
R387	1-216-033-00	METAL CHIP	220	5%	1/10W
R388	1-216-081-00	METAL CHIP	22K	5%	1/10W
R389	1-216-075-00	METAL CHIP	12K	5%	1/10W
R390	1-216-107-00	METAL CHIP	270K	5%	1/10W
R391	1-216-296-91	SHORT	0		
R392	1-216-075-00	METAL CHIP	12K	5%	1/10W
R393	1-216-081-00	METAL CHIP	22K	5%	1/10W
R394	1-216-033-00	METAL CHIP	220	5%	1/10W
R396	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R407	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R409	1-216-073-00	METAL CHIP	10K	5%	1/10W
R411	1-216-109-00	METAL CHIP	330K	5%	1/10W
R413	1-216-295-91	SHORT	0		
R417	1-216-073-00	METAL CHIP	10K	5%	1/10W
R418	1-216-025-91	RES-CHIP	100	5%	1/10W
R429	1-216-025-91	RES-CHIP	100	5%	1/10W
R430	1-216-025-91	RES-CHIP	100	5%	1/10W
R431	1-216-089-91	RES-CHIP	47K	5%	1/10W
R443	1-216-025-91	RES-CHIP	100	5%	1/10W
R444	1-216-025-91	RES-CHIP	100	5%	1/10W
R445	1-216-025-91	RES-CHIP	100	5%	1/10W
R446	1-216-025-91	RES-CHIP	100	5%	1/10W
R447	1-216-025-91	RES-CHIP	100	5%	1/10W
R448	1-216-025-91	RES-CHIP	100	5%	1/10W
R449	1-216-025-91	RES-CHIP	100	5%	1/10W
R450	1-216-049-91	RES-CHIP	1K	5%	1/10W
R467	1-216-295-91	SHORT	0		
R468	1-216-295-91	SHORT	0		

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

MAIN

Ref. No.	Part No.	Description			Remarks
R469	1-216-295-91	SHORT	0		
R483	1-216-073-00	METAL CHIP	10K	5%	1/10W
R484	1-216-073-00	METAL CHIP	10K	5%	1/10W
R490	1-216-174-00	RES-CHIP	100	5%	1/8W
R491	1-216-174-00	RES-CHIP	100	5%	1/8W
R493	1-216-174-00	RES-CHIP	100	5%	1/8W
R494	1-216-295-91	SHORT	0		
R495	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R496	1-216-089-91	RES-CHIP	47K	5%	1/10W
R497	1-216-061-00	METAL CHIP	3.3K	5%	1/10W (JE)
R497	1-216-053-00	METAL CHIP	1.5K	5%	1/10W (EXCEPT JE)
R498	1-216-089-91	RES-CHIP	47K	5%	1/10W
R499	1-216-025-91	RES-CHIP	100	5%	1/10W
R501	1-216-073-00	METAL CHIP	10K	5%	1/10W
R502	1-216-089-91	RES-CHIP	47K	5%	1/10W
R503	1-216-089-91	RES-CHIP	47K	5%	1/10W
R504	1-216-025-91	RES-CHIP	100	5%	1/10W
R505	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R506	1-216-049-91	RES-CHIP	1K	5%	1/10W
R507	1-216-081-00	METAL CHIP	22K	5%	1/10W
R508	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R509	1-216-097-91	RES-CHIP	100K	5%	1/10W
R523	1-216-073-00	METAL CHIP	10K	5%	1/10W
R524	1-216-073-00	METAL CHIP	10K	5%	1/10W
R546	1-216-073-00	METAL CHIP	10K	5%	1/10W
R547	1-216-073-00	METAL CHIP	10K	5%	1/10W
R548	1-216-073-00	METAL CHIP	10K	5%	1/10W
R566	1-216-073-00	METAL CHIP	10K	5%	1/10W
R601	1-216-295-91	SHORT	0	(JE)	
R602	1-216-029-00	METAL CHIP	150	5%	1/10W
R603	1-216-037-00	METAL CHIP	330	5%	1/10W (JE)
R603	1-216-045-00	METAL CHIP	680	5%	1/10W (EXCEPT JE)
R604	1-216-017-91	RES-CHIP	47	5%	1/10W
R605	1-216-045-00	METAL CHIP	680	5%	1/10W
R606	1-216-037-00	METAL CHIP	330	5%	1/10W
R607	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R608	1-216-017-91	RES-CHIP	47	5%	1/10W
R609	1-216-295-91	SHORT	0 (EXCEPT JE)		
R610	1-216-045-00	METAL CHIP	680	5%	1/10W
R611	1-216-182-00	RES-CHIP	220	5%	1/8W
R612	1-216-214-00	RES-CHIP	4.7K	5%	1/8W
R613	1-216-206-00	RES-CHIP	2.2K	5%	1/8W
R614	1-216-041-00	METAL CHIP	470	5%	1/10W
R615	1-216-049-91	RES-CHIP	1K	5%	1/10W
R616	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R617	1-216-041-00	METAL CHIP	470	5%	1/10W
R618	1-216-049-91	RES-CHIP	1K	5%	1/10W
R619	1-216-025-91	RES-CHIP	100	5%	1/10W
R620	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R621	1-216-075-00	METAL CHIP	12K	5%	1/10W
R622	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R623	1-216-073-00	METAL CHIP	10K	5%	1/10W
R624	1-216-073-00	METAL CHIP	10K	5%	1/10W
R625	1-216-073-00	METAL CHIP	10K	5%	1/10W
R641	1-216-097-91	RES-CHIP	100K	5%	1/10W

Ref. No.	Part No.	Description			Remarks
R642	1-216-073-00	METAL CHIP	10K	5%	1/10W
R655	1-216-073-00	METAL CHIP	10K	5%	1/10W
R656	1-216-222-00	RES-CHIP	10K	5%	1/8W
R658	1-216-174-00	RES-CHIP	100	5%	1/8W
R659	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R660	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R661	1-216-025-91	RES-CHIP	100	5%	1/10W
R662	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R663	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R664	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R665	1-216-025-91	RES-CHIP	100	5%	1/10W
R666	1-216-073-00	METAL CHIP	10K	5%	1/10W
R667	1-216-222-00	RES-CHIP	10K	5%	1/8W
R668	1-216-049-91	RES-CHIP	1K	5%	1/10W
R669	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R821	1-216-089-91	RES-CHIP	47K	5%	1/10W
R822	1-216-091-00	METAL CHIP	56K	5%	1/10W
R823	1-216-073-00	METAL CHIP	10K	5%	1/10W
R824	1-216-073-00	METAL CHIP	10K	5%	1/10W
R825	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R826	1-216-085-00	METAL CHIP	33K	5%	1/10W
R827	1-216-081-00	METAL CHIP	22K	5%	1/10W
R829	1-216-081-00	METAL CHIP	22K	5%	1/10W
R831	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R841	1-216-081-00	METAL CHIP	22K	5%	1/10W
R842	1-216-081-00	METAL CHIP	22K	5%	1/10W
R843	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R844	1-216-097-91	RES-CHIP	100K	5%	1/10W
R845	1-216-121-91	RES-CHIP	1M	5%	1/10W
R861	1-216-049-91	RES-CHIP	1K	5%	1/10W
R862	1-216-073-00	METAL CHIP	10K	5%	1/10W
R863	1-216-089-91	RES-CHIP	47K	5%	1/10W
R864	1-216-049-91	RES-CHIP	1K	5%	1/10W
R865	1-216-049-91	RES-CHIP	1K	5%	1/10W
R866	1-216-019-00	METAL CHIP	56	5%	1/10W
R868	1-215-891-11	METAL OXIDE	680	5%	2W
R869	1-215-891-11	METAL OXIDE	680	5%	2W
R911	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R912	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R913	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R961	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R962	1-216-089-91	RES-CHIP	47K	5%	1/10W
R963	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R964	1-216-089-91	RES-CHIP	47K	5%	1/10W
R965	1-216-089-91	RES-CHIP	47K	5%	1/10W
R966	1-216-019-00	METAL CHIP	56	5%	1/10W
R967	1-216-025-91	RES-CHIP	100	5%	1/10W
		< COMPOSITION CIRCUIT BLOCK >			
RB641	1-234-457-11	ENCAPSULATED COMPONENT			
		< VARIABLE RESISTOR >			
RV301	1-241-764-11	RES, ADJ, CARBON 10K			
RV302	1-241-762-11	RES, ADJ, CARBON 2.2K			
RV303	1-241-762-11	RES, ADJ, CARBON 2.2K			
RV304	1-241-768-11	RES, ADJ, CARBON 220K			
RV351	1-241-764-11	RES, ADJ, CARBON 10K			

Ref. No.	Part No.	Description			Remarks
RV352	1-241-762-11	RES, ADJ, CARBON 2.2K			
RV353	1-241-762-11	RES, ADJ, CARBON 2.2K			
RV354	1-241-768-11	RES, ADJ, CARBON 220K			
RV611	1-241-765-11	RES, ADJ, CARBON 22K			
		< RELAY >			
RY801	1-755-373-11	RELAY			
		< TRANSFORMER >			
T301	1-423-980-11	TRANSFORMER, BIAS OSCILLATION			
T601	1-435-195-11	TRANSFORMER, DISCRIMINATOR			
		< TERMINAL >			
TM601	1-694-555-11	TERMINAL BOARD (4P) (FM/AM)			
TM801	1-694-635-11	TERMINAL BOARD (4P) (SPEAKER)			
		< VIBRATOR >			
X401	1-567-098-41	VIBRATOR, CRYSTAL 32.768KHz			
X402	1-781-107-21	VIBRATOR, SERAMIC 16MHz			
X651	1-760-549-31	VIBRATOR, CRYSTAL 4.5MHz			

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Ref. No.	Part No.	Description			Remarks
	1-675-910-11	MOTOR BOARD			
		*************			
		< CAPACITOR >			
C721	1-162-306-11	CERAMIC	0.01uF	30.00%	16V
		< CONNECTOR >			
CN721	1-770-516-31	CONNECTOR, FFC 8P			
CN722	1-785-330-11	PIN, CONNECTOR (LIGHT ANGLE)4P			
		< SWITCH >			
S701	1-771-822-11	SWITCH, LEVER (SLIDE)			

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Ref. No.	Part No.	Description			Remarks
	A-4428-035-A	PANEL BOARD, COMPLETE (E,EA,HK,MY,SP,TW,JE)			
		*********************			
	A-4428-607-A	PANEL BOARD, COMPLETE (TH)			
		*********************			
	A-4428-539-A	PANEL BOARD, COMPLETE (IA)			
		*********************			
	4-224-584-11	HOLDER(FL)			
		< CAPACITOR >			
C601	1-124-589-11	ELECT	47uF	20%	16V
C602	1-126-163-11	ELECT	4.7uF	20%	50V
C603	1-162-306-11	CERAMIC	0.01uF	30.00%	16V
C604	1-162-294-31	CERAMIC	0.001uF	10%	50V
C605	1-162-306-11	CERAMIC	0.01uF	30.00%	16V
C607	1-124-589-11	ELECT	47uF	20%	16V
C608	1-162-306-11	CERAMIC	0.01uF	30.00%	16V
C609	1-162-306-11	CERAMIC	0.01uF	30.00%	16V
C610	1-126-157-11	ELECT	10uF	20%	16V
C611	1-126-157-11	ELECT	10uF	20%	16V
C612	1-162-303-11	CERAMIC	0.0033uF	30.00%	16V
C613	1-126-157-11	ELECT	10uF	20%	16V

Ref. No.	Part No.	Description			Remarks
C614	1-126-157-11	ELECT	10uF	20%	16V
C615	1-126-163-11	ELECT	4.7uF	20%	50V
C616	1-162-306-11	CERAMIC	0.01uF	30.00%	16V
C617	1-162-306-11	CERAMIC	0.01uF	30.00%	16V
C618	1-162-306-11	CERAMIC	0.01uF	30.00%	16V
C620	1-126-157-11	ELECT	10uF	20%	16V
C622	1-162-306-11	CERAMIC	0.01uF	30.00%	16V
C623	1-162-306-11	CERAMIC	0.01uF	30.00%	16V
C624	1-162-306-11	CERAMIC	0.01uF	30.00%	16V
C631	1-162-294-31	CERAMIC	0.001uF	10%	50V
C632	1-162-294-31	CERAMIC	0.001uF	10%	50V
C633	1-164-159-11	CERAMIC	0.1uF		50V
C652	1-126-966-11	ELECT	33uF	20.00%	50V
C653	1-126-966-11	ELECT	33uF	20.00%	50V
C655	1-162-282-31	CERAMIC	100PF	10%	50V
C656	1-162-282-31	CERAMIC	100PF	10%	50V
C657	1-162-282-31	CERAMIC	100PF	10%	50V
C658	1-162-282-31	CERAMIC	100PF	10%	50V
C659	1-162-282-31	CERAMIC	100PF	10%	50V
C660	1-162-282-31	CERAMIC	100PF	10%	50V
C661	1-162-282-31	CERAMIC	100PF	10%	50V
C662	1-162-282-31	CERAMIC	100PF	10%	50V
C663	1-162-282-31	CERAMIC	100PF	10%	50V
C664	1-162-282-31	CERAMIC	100PF	10%	50V
C665	1-162-282-31	CERAMIC	100PF	10%	50V
C666	1-162-282-31	CERAMIC	100PF	10%	50V
C667	1-162-282-31	CERAMIC	100PF	10%	50V
C668	1-162-282-31	CERAMIC	100PF	10%	50V
C669	1-162-282-31	CERAMIC	100PF	10%	50V
C670	1-162-282-31	CERAMIC	100PF	10%	50V
C671	1-162-282-31	CERAMIC	100PF	10%	50V
C697	1-162-282-31	CERAMIC	100PF	10%	50V
C719	1-104-665-11	ELECT	100uF	20.00%	10V
C720	1-104-665-11	ELECT	100uF	20.00%	10V
C721	1-162-294-31	CERAMIC	0.001uF	10%	50V
C722	1-162-305-11	CERAMIC	0.0068uF	30.00%	16V
C723	1-126-160-11	ELECT	1uF	20%	50V
C724	1-136-495-11	MYLAR	0.068uF	5.00%	50V
C725	1-124-465-00	ELECT	0.47uF	20%	50V
C726	1-124-465-00	ELECT	0.47uF	20%	50V
C727	1-136-167-00	MYLAR	0.15uF	5.00%	50V
C728	1-162-294-31	CERAMIC	0.001uF	10%	50V
C729	1-126-160-11	ELECT	1uF	20%	50V
C730	1-161-494-00	CERAMIC	0.022uF		25V
C731	1-162-305-11	CERAMIC	0.0068uF	30.00%	16V
C732	1-136-495-11	MYLAR	0.068uF	5.00%	50V
C733	1-124-589-11	ELECT	47uF	20%	16V
C734	1-124-589-11	ELECT	47uF	20%	16V
C735	1-124-257-00	ELECT	2.2uF	20%	50V
C736	1-124-261-00	ELECT	10uF	20%	50V
C737	1-124-261-00	ELECT	10uF	20%	50V
C738	1-124-257-00	ELECT	2.2uF	20%	50V
C739	1-162-215-31	CERAMIC	47PF	5%	50V
C740	1-162-282-31	CERAMIC	100PF	10%	50V
C741	1-124-463-00	ELECT	0.1uF	20%	50V
C742	1-162-215-31	CERAMIC	47PF	5%	50V
C743	1-162-290-31	CERAMIC	470PF	10%	50V
C744	1-162-294-31	CERAMIC	0.001uF	10%	50V

PANEL

Ref. No.	Part No.	Description			Remarks
C745	1-124-464-11	ELECT	0.22uF	20%	50V
C746	1-162-306-11	CERAMIC	0.01uF	30.00%	16V
C747	1-124-464-11	ELECT	0.22uF	20%	50V
C748	1-162-306-11	CERAMIC	0.01uF	30.00%	16V
C749	1-164-159-11	CERAMIC	0.1uF		50V
C750	1-124-257-00	ELECT	2.2uF	20%	50V
		< CONNECTOR >			
CN601	1-793-767-11	CONNECTOR, BOARD TO BOARD 30P			
		< DIODE >			
D601	8-719-071-44	DIODE SELS5223C-TP15			
D602	8-719-071-44	DIODE SELS5223C-TP15			
D614	8-719-058-04	DIODE SEL5223S-TP15			
D615	8-719-057-97	DIODE SEL5923A-TP15			
D616	8-719-057-97	DIODE SEL5923A-TP15			
D617	8-719-071-41	DIODE SELS5923C-TP15			
D618	8-719-071-41	DIODE SELS5923C-TP15			
D619	8-719-071-41	DIODE SELS5923C-TP15			
D620	8-719-071-41	DIODE SELS5923C-TP15			
		< FERRITE BEAD >			
FB601	1-412-473-21	INDUCTOR	0UH		
		< FILTER >			
FL601	1-517-928-11	INDICATOR TUBE, FLUORESCENT			
		< IC >			
IC601	8-759-677-44	IC TMP88CS77F-1A68			
IC602	8-759-570-21	IC BA3830F-E2			
IC603	8-759-648-23	IC RPM6940-H4			
IC721	8-759-496-41	IC M65850FP-E1			
IC722	8-759-099-06	IC M5218AFP-TE1			
		< JACK >			
J631	1-785-569-11	JACK (SMALL TYPE)(PHONES)			
J721	1-785-569-11	JACK (SMALL TYPE)(MIC 1)			
J722	1-785-569-11	JACK (SMALL TYPE)(MIC 2)			
		< TRANSISTOR >			
Q604	8-729-900-80	TRANSISTOR	BA1A4M-TP		
Q605	8-729-900-80	TRANSISTOR	BA1A4M-TP		
Q606	8-729-029-68	TRANSISTOR	DTC114TSA-TP		
Q607	8-729-029-68	TRANSISTOR	DTC114TSA-TP		
Q608	8-729-029-68	TRANSISTOR	DTC114TSA-TP		
Q609	8-729-029-68	TRANSISTOR	DTC114TSA-TP		
Q610	8-729-029-68	TRANSISTOR	DTC114TSA-TP		
Q611	8-729-029-68	TRANSISTOR	DTC114TSA-TP		
Q612	8-729-047-58	TRANSISTOR	DTC114TLTL2		
Q613	8-729-047-58	TRANSISTOR	DTC114TLTL2		
Q614	8-729-047-58	TRANSISTOR	DTC114TLTL2		
Q624	8-729-900-80	TRANSISTOR	BA1A4M-TP		
Q625	8-729-900-80	TRANSISTOR	BA1A4M-TP		
Q626	8-729-900-80	TRANSISTOR	BA1A4M-TP		
Q627	8-729-900-80	TRANSISTOR	BA1A4M-TP		
Q628	8-729-900-80	TRANSISTOR	BA1A4M-TP		
Q629	8-729-900-80	TRANSISTOR	BA1A4M-TP		

Ref. No.	Part No.	Description			Remarks	
Q630	8-729-900-80	TRANSISTOR	BA1A4M-TP			
Q721	8-729-119-78	TRANSISTOR	2SC2785TP-HFE			
		< RESISTOR >				
R601	1-249-429-11	CARBON	10K	5%	1/4W	
R602	1-249-429-11	CARBON	10K	5%	1/4W	
R603	1-249-429-11	CARBON	10K	5%	1/4W	
R604	1-247-807-31	CARBON	100	5%	1/4W	
R605	1-247-903-00	CARBON	1M	5%	1/4W	
R606	1-247-807-31	CARBON	100	5%	1/4W	
R607	1-249-429-11	CARBON	10K	5%	1/4W	
R608	1-247-807-31	CARBON	100	5%	1/4W	
R609	1-249-429-11	CARBON	10K	5%	1/4W	
R610	1-247-807-31	CARBON	100	5%	1/4W	
R611	1-249-429-11	CARBON	10K	5%	1/4W	
R612	1-249-401-11	CARBON	47	5%	1/4W	F
R613	1-247-893-11	CARBON	390K	5%	1/4W	
R614	1-247-893-11	CARBON	390K	5%	1/4W	
R615	1-249-441-11	CARBON	100K	5%	1/4W	
R616	1-249-440-11	CARBON	82K	5%	1/4W	
R617	1-249-429-11	CARBON	10K	5%	1/4W	
R618	1-249-441-11	CARBON	100K	5%	1/4W	
R619	1-249-441-11	CARBON	100K	5%	1/4W	
R620	1-249-437-11	CARBON	47K	5%	1/4W	
R621	1-249-440-11	CARBON	82K	5%	1/4W	
R623	1-249-420-11	CARBON	1.8K	5%	1/4W	F
R624	1-249-401-11	CARBON	47	5%	1/4W	F
R625	1-249-435-11	CARBON	33K	5%	1/4W	
R626	1-247-895-00	CARBON	470K	5%	1/4W	
R633	1-247-828-11	CARBON	750	5%	1/4W	
R634	1-249-414-11	CARBON	560	5%	1/4W	F
R635	1-249-409-11	CARBON	220	5%	1/4W	F
R636	1-249-441-11	CARBON	100K	5%	1/4W	
R637	1-249-441-11	CARBON	100K	5%	1/4W	
R638	1-249-441-11	CARBON	100K	5%	1/4W	
R639	1-249-441-11	CARBON	100K	5%	1/4W	
R640	1-249-441-11	CARBON	100K	5%	1/4W	
R641	1-249-441-11	CARBON	100K	5%	1/4W	
R642	1-249-441-11	CARBON	100K	5%	1/4W	
R643	1-249-441-11	CARBON	100K	5%	1/4W	
R644	1-249-441-11	CARBON	100K	5%	1/4W	
R645	1-249-415-11	CARBON	680	5%	1/4W	F
R651	1-249-429-11	CARBON	10K	5%	1/4W	
R652	1-249-410-11	CARBON	270	5%	1/4W	F
R653	1-249-411-11	CARBON	330	5%	1/4W	
R654	1-249-413-11	CARBON	470	5%	1/4W	F
R655	1-249-414-11	CARBON	560	5%	1/4W	F
R656	1-249-415-11	CARBON	680	5%	1/4W	F
R657	1-249-417-11	CARBON	1K	5%	1/4W	F
R658	1-249-418-11	CARBON	1.2K	5%	1/4W	F
R659	1-249-420-11	CARBON	1.8K	5%	1/4W	F
R660	1-249-422-11	CARBON	2.7K	5%	1/4W	F
R661	1-247-843-11	CARBON	3.3K	5%	1/4W	
R662	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R663	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R664	1-249-429-11	CARBON	10K	5%	1/4W	
R665	1-249-410-11	CARBON	270	5%	1/4W	F
R666	1-249-411-11	CARBON	330	5%	1/4W	

Ref. No.	Part No.	Description			Remarks
R667	1-249-413-11	CARBON	470	5%	1/4W F
R668	1-249-414-11	CARBON	560	5%	1/4W F
R669	1-249-415-11	CARBON	680	5%	1/4W F
R670	1-249-417-11	CARBON	1K	5%	1/4W F
R671	1-249-418-11	CARBON	1.2K	5%	1/4W F
R672	1-249-420-11	CARBON	1.8K	5%	1/4W F
R673	1-249-422-11	CARBON	2.7K	5%	1/4W F
R674	1-247-843-11	CARBON	3.3K	5%	1/4W
R675	1-249-425-11	CARBON	4.7K	5%	1/4W F
R676	1-249-427-11	CARBON	6.8K	5%	1/4W F
R677	1-249-429-11	CARBON	10K	5%	1/4W
R678	1-249-432-11	CARBON	18K	5%	1/4W (IA)
R678	1-249-431-11	CARBON	15K	5%	1/4W (EXCEPT IA)
R679	1-249-429-11	CARBON	10K	5%	1/4W
R680	1-249-410-11	CARBON	270	5%	1/4W F
R681	1-249-411-11	CARBON	330	5%	1/4W
R682	1-249-413-11	CARBON	470	5%	1/4W F
R683	1-249-414-11	CARBON	560	5%	1/4W F
R684	1-249-415-11	CARBON	680	5%	1/4W F
R685	1-249-417-11	CARBON	1K	5%	1/4W F
R686	1-249-418-11	CARBON	1.2K	5%	1/4W F
R687	1-249-420-11	CARBON	1.8K	5%	1/4W F
R688	1-249-422-11	CARBON	2.7K	5%	1/4W F
R689	1-247-843-11	CARBON	3.3K	5%	1/4W
R690	1-249-425-11	CARBON	4.7K	5%	1/4W F
R691	1-216-347-11	METAL OXIDE	0.68	5%	1W
R707	1-249-411-11	CARBON	330	5%	1/4W
R708	1-249-409-11	CARBON	220	5%	1/4W F
R709	1-249-409-11	CARBON	220	5%	1/4W F
R710	1-249-409-11	CARBON	220	5%	1/4W F
R711	1-249-409-11	CARBON	220	5%	1/4W F
R712	1-249-409-11	CARBON	220	5%	1/4W F
R713	1-249-409-11	CARBON	220	5%	1/4W F
R720	1-249-417-11	CARBON	1K	5%	1/4W F
R721	1-249-429-11	CARBON	10K	5%	1/4W
R722	1-249-430-11	CARBON	12K	5%	1/4W
R723	1-249-433-11	CARBON	22K	5%	1/4W
R724	1-249-433-11	CARBON	22K	5%	1/4W
R725	1-249-433-11	CARBON	22K	5%	1/4W
R726	1-249-437-11	CARBON	47K	5%	1/4W
R727	1-249-433-11	CARBON	22K	5%	1/4W
R728	1-249-431-11	CARBON	15K	5%	1/4W
R729	1-249-433-11	CARBON	22K	5%	1/4W
R730	1-249-433-11	CARBON	22K	5%	1/4W
R731	1-247-881-00	CARBON	120K	5%	1/4W
R732	1-249-410-11	CARBON	270	5%	1/4W F
R733	1-249-431-11	CARBON	15K	5%	1/4W
R734	1-247-807-31	CARBON	100	5%	1/4W
R735	1-247-889-00	CARBON	270K	5%	1/4W
R736	1-249-429-11	CARBON	10K	5%	1/4W
R737	1-249-437-11	CARBON	47K	5%	1/4W
R738	1-249-417-11	CARBON	1K	5%	1/4W F
R739	1-249-441-11	CARBON	100K	5%	1/4W
R740	1-249-417-11	CARBON	1K	5%	1/4W F
R741	1-249-429-11	CARBON	10K	5%	1/4W
R742	1-249-417-11	CARBON	1K	5%	1/4W F

Ref. No.	Part No.	Description			Remarks
R743	1-249-429-11	CARBON	10K	5%	1/4W
R744	1-249-441-11	CARBON	100K	5%	1/4W
R745	1-247-807-31	CARBON	100	5%	1/4W
		< VARIABLE RESISTOR >			
RV721	1-225-739-11	RES, VAR CARBON 50K			
RV722	1-225-739-11	RES, VAR CARBON 50K			
		< SWITCH >			
S601	1-418-725-11	ENCODER, ROTARY (12 TYPE)(VOLUME)			
S611	1-762-875-21	SWITCH, KEYBOARD (FF)			
S612	1-762-875-21	SWITCH, KEYBOARD (REW)			
S613	1-762-875-21	SWITCH, KEYBOARD (EDIT)			
S614	1-762-875-21	SWITCH, KEYBOARD (STEREO/MONO)			
S615	1-762-875-21	SWITCH, KEYBOARD (PLAY MODE)			
S616	1-762-875-21	SWITCH, KEYBOARD (GROOVE)			
S617	1-762-875-21	SWITCH, KEYBOARD (SURROUND)			
S618	1-762-875-21	SWITCH, KEYBOARD (HI-DUB)			
S619	1-762-875-21	SWITCH, KEYBOARD (REC PAUSE)			
S620	1-762-875-21	SWITCH, KEYBOARD (ENTER)			
S621	1-762-875-21	SWITCH, KEYBOARD (EQ EDIT)			
S622	1-762-875-21	SWITCH, KEYBOARD (PICTURE EFFECT)			
S623	1-762-875-21	SWITCH, KEYBOARD (AMS -)			
S624	1-762-875-21	SWITCH, KEYBOARD (STOP)			
S625	1-762-875-21	SWITCH, KEYBOARD (PLAY)			
S626	1-762-875-21	SWITCH, KEYBOARD (PAUSE)			
S627	1-762-875-21	SWITCH, KEYBOARD (AMS +)			
S628	1-762-875-21	SWITCH, KEYBOARD (TUNER)			
S629	1-762-875-21	SWITCH, KEYBOARD (CD)			
S630	1-762-875-21	SWITCH, KEYBOARD (TAPE A/B)			
S631	1-762-875-21	SWITCH, KEYBOARD (MD(VIDEO)			
S632	1-762-875-21	SWITCH, KEYBOARD (DOWN)			
S633	1-762-875-21	SWITCH, KEYBOARD (UP)			
S634	1-762-875-21	SWITCH, KEYBOARD (RETURN)			
S635	1-762-875-21	SWITCH, KEYBOARD (PREV)			
S636	1-762-875-21	SWITCH, KEYBOARD (NEXT)			
S637	1-762-875-21	SWITCH, KEYBOARD (POWER)			
S638	1-762-875-21	SWITCH, KEYBOARD (DISPLAY)			
S639	1-762-875-21	SWITCH, KEYBOARD (SPECTRUM)			
S640	1-762-875-21	SWITCH, KEYBOARD (LEFT)			
S641	1-762-875-21	SWITCH, KEYBOARD (RIGHT)			
S642	1-762-875-21	SWITCH, KEYBOARD (DISK SKIP)			
S643	1-762-875-21	SWITCH, KEYBOARD (DISC 1)			
S644	1-762-875-21	SWITCH, KEYBOARD (DISC 2)			
S645	1-762-875-21	SWITCH, KEYBOARD (DISC 1)			
S646	1-762-875-21	SWITCH, KEYBOARD (OPEN/CLOSE)			
S647	1-762-875-21	SWITCH, KEYBOARD (KARAOKE)			
		< VIBRATOR >			
X601	1-579-352-11	VIBRATOR, CERAMIC 12.5MHz			

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Ref. No.	Part No.	Description				Remarks
	1-678-153-11	SENSOR BOARD				
		*************				
		< THERMISTOR >				
TH501	1-807-796-11	THERMISTOR				

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Ref. No.	Part No.	Description				Remarks
	A-4428-604-A	TRANS BOARD, COMPLETE				(E,EA,HK,MY,SP,TW,JE)
		**********************				
	A-4428-542-A	TRANS BOARD, COMPLETE (IA)				
		**********************				
	A-4428-610-A	TRANS BOARD, COMPLETE (TH)				
		**********************				
	1-533-217-31	HOLDER, FUSE				
	7-685-646-79	SCREW+BVTP	3X8	TYPE2 N-S		
		< CAPACITOR >				
C975	1-164-159-11	CERAMIC	0.1uF		50V	
C976	1-128-553-11	ELECT	220uF	20.00%	63V	
C978	1-126-964-11	ELECT	10uF	20.00%	50V	
C979	1-126-968-11	ELECT	100uF	20.00%	50V	
C980	1-164-159-11	CERAMIC	0.1uF		50V	
		< CONNECTOR >				
CN971	1-564-321-00	PIN, CONNECTOR 2P				
* CN972	1-564-526-11	PLUG, CONNECTOR 11P				
		< DIODE >				
D977	8-719-024-99	DIODE 11ES2-NTA2B				
D978	8-719-983-99	DIODE MTZJ-T-72-39D				
D979	8-719-110-31	DIODE MTZJ-T-72-12B				
		< FUSE >				
⚠F971	1-533-471-11	FUSE, GLASS TUBE (DIA. 5) 4A/250V				
⚠F972	1-533-469-11	FUSE, GLASS TUBE (DIA. 5) 2.5A/250V				
⚠F973	1-533-468-11	FUSE, GLASS TUBE (DIA. 5) 2A/250V				(EXCEPT TH)
		< TRANSISTOR >				
Q972	8-729-048-52	TRANSISTOR	2SA1932(TP)			
		< RESISTOR >				
⚠R972	1-219-119-81	FUSIBLE	0.1	5%	1/4W	
⚠R977	1-217-637-00	FUSIBLE	1	5%	1/4W	
R978	1-249-429-11	CARBON	10K	5%	1/4W	
R979	1-249-417-11	CARBON	1K	5%	1/4W	F
R980	1-249-429-11	CARBON	10K	5%	1/4W	
		< SWITCH >				
⚠S971	1-771-291-11	SWITCH, POWER (VOLTAGE SELECTOR)				

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Ref. No.	Part No.	Description			Remarks
	A-4724-973-A	VIDEO BOARD, COMPLETE			
		*********************			
		< CAPACITOR >			
C101	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C102	1-163-143-00	CERAMIC CHIP	0.0012uF	5%	50V
C103	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C201	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C202	1-163-143-00	CERAMIC CHIP	0.0012uF	5%	50V
C203	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C304	1-163-127-00	CERAMIC CHIP	270PF	5%	50V
C305	1-163-235-11	CERAMIC CHIP	22PF	5.00%	50V
C306	1-163-127-00	CERAMIC CHIP	270PF	5%	50V
C307	1-163-235-11	CERAMIC CHIP	22PF	5.00%	50V
C308	1-163-263-11	CERAMIC CHIP	330PF	5.00%	50V
C309	1-163-263-11	CERAMIC CHIP	330PF	5.00%	50V
C310	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C311	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C312	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C313	1-163-259-91	CERAMIC CHIP	220PF	5.00%	50V
C314	1-163-235-11	CERAMIC CHIP	22PF	5.00%	50V
C315	1-163-255-11	CERAMIC CHIP	150PF	5.00%	50V
C316	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C317	1-126-193-11	ELECT	1uF	20%	50V
C318	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C319	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C320	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C321	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C322	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C323	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C324	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C325	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C401	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C402	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C504	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C505	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C506	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C507	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C508	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C509	1-163-275-11	CERAMIC CHIP	0.001uF	5.00%	50V
C510	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C531	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C532	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C535	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C536	1-126-193-11	ELECT	1uF	20%	50V
C537	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C539	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C540	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C541	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C542	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C543	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C544	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C545	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C546	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C547	1-126-193-11	ELECT	1uF	20%	50V
C548	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C549	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C550	1-163-275-11	CERAMIC CHIP	0.001uF	5.00%	50V

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description			Remarks
C551	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C552	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C553	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C555	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C556	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C559	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C561	1-163-233-11	CERAMIC CHIP	18PF	5.00%	50V
C563	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C564	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C565	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C566	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C568	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C569	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C570	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C571	1-128-065-11	ELECT CHIP	68uF	20.00%	10V
C573	1-163-235-11	CERAMIC CHIP	22PF	5.00%	50V
C574	1-163-235-11	CERAMIC CHIP	22PF	5.00%	50V
C576	1-163-235-11	CERAMIC CHIP	22PF	5.00%	50V
C577	1-163-235-11	CERAMIC CHIP	22PF	5.00%	50V
		< CONNECTOR >			
CN501	1-779-343-21	CONNECTOR, FFC/FPC 23P			
CN502	1-779-416-11	CONNECTOR,FFC(LIF(NON-ZIF))13P			
CN503	1-774-766-21	CONNECTOR, FFC/FPC 11P			
		< TRIMMER >			
CT503	1-141-539-11	CAP, ADJ 10PF			
		< DIODE >			
D501	8-719-422-12	DIODE UDZ-TE-17-3.9B			
		< IC >			
IC101	8-759-701-40	IC NJM2100M(TE2)			
IC301	8-759-530-30	IC TC74VHCU04FT(EL)			
IC302	8-759-662-94	IC NJM2255M(TE2)			
IC303	8-759-711-47	IC NJM2209M(TE2)			
IC304	8-759-662-95	IC BA7665FS-E2			
IC501	8-759-530-30	IC TC74VHCU04FT(EL)			
IC502	8-759-663-01	IC M30624MCA-A34FP			
IC504	8-759-530-30	IC TC74VHCU04FT(EL)			
IC505	8-759-535-48	IC CL680T-D1			
IC506	8-759-677-67	IC LC372100PM-K98-TLA			
IC507	8-759-342-01	IC MSM514260C-60JS			
IC509	8-759-535-62	IC PCM1727E-2/T2			
		< JACK >			
J301	1-537-943-11	TERMINAL, S (S VIDEO)			
J302	1-774-227-11	JACK, PIN 1P (VIDEO)			
		< JUMPER RESISTOR >			
JW101	1-216-295-91	SHORT	0		
JW201	1-216-295-91	SHORT	0		
JW301	1-216-295-91	SHORT	0		
JW302	1-216-025-91	RES-CHIP	100	5%	1/10W
JW304	1-216-295-91	SHORT	0		
JW413	1-216-295-91	SHORT	0		
JW504	1-216-295-91	SHORT	0		
JW505	1-216-295-91	SHORT	0		
JW513	1-216-295-91	SHORT	0		
		< COIL >			
L301	1-410-372-21	INDUCTOR CHIP	1.8uH		
L302	1-410-372-21	INDUCTOR CHIP	1.8uH		
L303	1-410-658-31	INDUCTOR CHIP	220uH		
L501	1-216-296-91	SHORT	0		
L502	1-216-296-91	SHORT	0		
L504	1-410-375-11	INDUCTOR CHIP	3.3uH		
L505	1-216-296-91	SHORT	0		
L506	1-216-296-91	SHORT	0		
L507	1-216-296-91	SHORT	0		
L508	1-216-296-91	SHORT	0		
L509	1-216-296-91	SHORT	0		
L510	1-216-296-91	SHORT	0		
L511	1-469-145-21	FERRITE	0uH		
L512	1-469-145-21	FERRITE	0uH		
L513	1-469-145-21	FERRITE	0uH		
		< TRANSISTOR >			
Q501	8-729-900-53	TRANSISTOR	DTC114EKA-T146		
Q502	8-729-900-53	TRANSISTOR	DTC114EKA-T146		
Q531	8-729-140-75	TRANSISTOR	2SD999-T1-CLCK		
		< RESISTOR >			
R101	1-216-073-00	METAL CHIP	10K	5%	1/10W
R102	1-208-441-61	RES-CHIP	1.5K	2%	1/10W
R103	1-208-441-61	RES-CHIP	1.5K	2%	1/10W
R201	1-216-073-00	METAL CHIP	10K	5%	1/10W
R202	1-208-441-61	RES-CHIP	1.5K	2%	1/10W
R203	1-208-441-61	RES-CHIP	1.5K	2%	1/10W
R302	1-216-624-11	METAL CHIP	75	0.5%	1/10W
R303	1-216-624-11	METAL CHIP	75	0.5%	1/10W
R306	1-216-624-11	METAL CHIP	75	0.5%	1/10W
R308	1-216-073-00	METAL CHIP	10K	5%	1/10W
R309	1-216-073-00	METAL CHIP	10K	5%	1/10W
R310	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R311	1-216-029-00	METAL CHIP	150	5%	1/10W
R312	1-216-073-00	METAL CHIP	10K	5%	1/10W
R313	1-216-073-00	METAL CHIP	10K	5%	1/10W
R314	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R315	1-216-624-11	METAL CHIP	75	0.5%	1/10W
R316	1-216-022-00	METAL CHIP	75	5%	1/10W
R317	1-216-022-00	METAL CHIP	75	5%	1/10W
R318	1-216-295-91	SHORT	0		
R319	1-216-624-11	METAL CHIP	75	0.5%	1/10W
R320	1-216-295-91	SHORT	0		
R403	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R404	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R501	1-216-025-91	RES-CHIP	100	5%	1/10W
R502	1-216-025-91	RES-CHIP	100	5%	1/10W
R503	1-216-025-91	RES-CHIP	100	5%	1/10W
R504	1-216-025-91	RES-CHIP	100	5%	1/10W
R505	1-216-025-91	RES-CHIP	100	5%	1/10W
R506	1-216-025-91	RES-CHIP	100	5%	1/10W
R507	1-216-073-00	METAL CHIP	10K	5%	1/10W

VIDEO

Ref. No.	Part No.	Description			Remarks
R508	1-216-073-00	METAL CHIP	10K	5%	1/10W
R516	1-216-073-00	METAL CHIP	10K	5%	1/10W
R517	1-216-073-00	METAL CHIP	10K	5%	1/10W
R518	1-216-073-00	METAL CHIP	10K	5%	1/10W
R519	1-216-025-91	RES-CHIP	100	5%	1/10W
R520	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R521	1-216-073-00	METAL CHIP	10K	5%	1/10W
R523	1-216-013-00	METAL CHIP	33	5%	1/10W
R530	1-216-025-91	RES-CHIP	100	5%	1/10W
R531	1-216-025-91	RES-CHIP	100	5%	1/10W
R532	1-216-295-91	SHORT	0		
R533	1-216-295-91	SHORT	0		
R534	1-216-073-00	METAL CHIP	10K	5%	1/10W
R535	1-216-073-00	METAL CHIP	10K	5%	1/10W
R536	1-216-033-00	METAL CHIP	220	5%	1/10W
R537	1-216-025-91	RES-CHIP	100	5%	1/10W
R538	1-216-073-00	METAL CHIP	10K	5%	1/10W
R539	1-216-295-91	SHORT	0		
R540	1-216-295-91	SHORT	0		
R542	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R543	1-216-685-11	METAL CHIP	27K	0.5%	1/10W
R544	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R545	1-216-025-91	RES-CHIP	100	5%	1/10W
R546	1-216-049-91	RES-CHIP	1K	5%	1/10W
R548	1-216-049-91	RES-CHIP	1K	5%	1/10W
R549	1-216-025-91	RES-CHIP	100	5%	1/10W
R550	1-216-025-91	RES-CHIP	100	5%	1/10W
R551	1-216-025-91	RES-CHIP	100	5%	1/10W
R552	1-216-025-91	RES-CHIP	100	5%	1/10W
R555	1-216-121-91	RES-CHIP	1M	5%	1/10W
R556	1-216-025-91	RES-CHIP	100	5%	1/10W
R557	1-216-025-91	RES-CHIP	100	5%	1/10W
R560	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W
R561	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R562	1-216-073-00	METAL CHIP	10K	5%	1/10W
R563	1-216-073-00	METAL CHIP	10K	5%	1/10W
R577	1-216-081-00	METAL CHIP	22K	5%	1/10W
R578	1-216-081-00	METAL CHIP	22K	5%	1/10W
R579	1-216-073-00	METAL CHIP	10K	5%	1/10W
R580	1-216-073-00	METAL CHIP	10K	5%	1/10W
		< VIBRATOR >			
X501	1-767-510-11	VIBRATOR, CERAMIC 10MHz			
X503	1-767-519-11	VIBRATOR, CRYSTAL 27MHz			

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Ref. No.	Part No.	Description	Remarks
		MISCELLANEOUS ***************	
13	1-792-246-11	WIRE(FLAT TYPE) (23 CORE)	
101	1-773-042-11	WIRE (FLAT TYPE) (17 CORE)	
104	1-769-986-11	WIRE (FLAT TYPE) (13 CORE)	
⚠108	1-791-901-11	CORD, POWER (EA,TH,IA,JE)	
⚠108	1-777-071-81	CORD, POWER (E,HK,MY,SP,TW)	
⚠109	1-569-007-11	ADAPTOR, CONVERSION 2P (EA,IA,JE)	
⚠109	1-569-008-21	ADAPTOR, CONVERSION 2P (E,MY,SP,TW)	
⚠110	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (HK)	
M961	1-698-792-11	FAN, DC	
⚠T971	1-435-371-11	TRANSFORMER, POWER	

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Ref. No.	Part No.	Description	Remarks
		************** HARDWARE LIST **************	
#1	7-628-254-05	SCREW +PS 2.6X5	
#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#3	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
#4	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3	
#5	7-685-871-01	SCREW +BVTT 3X6 (S)	
#6	7-685-872-09	SCREW +BVTT 3X8 (S)	
#7	7-685-880-09	SCREW +BVTT 4X6 (S)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

9-929-098-11

Sony Corporation
Home Audio Division Company

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SS-BX3/DX3/VX33

SERVICE MANUAL

Ver 1.0 2000.1

US Model
Canadian Model
SS-BX3
E Model
Australian Model
SS-DX3/VX33

Photo: SS-BX3

- This set is the speaker system in MHC-BX3/DX3/VX33.

SPECIFICATIONS

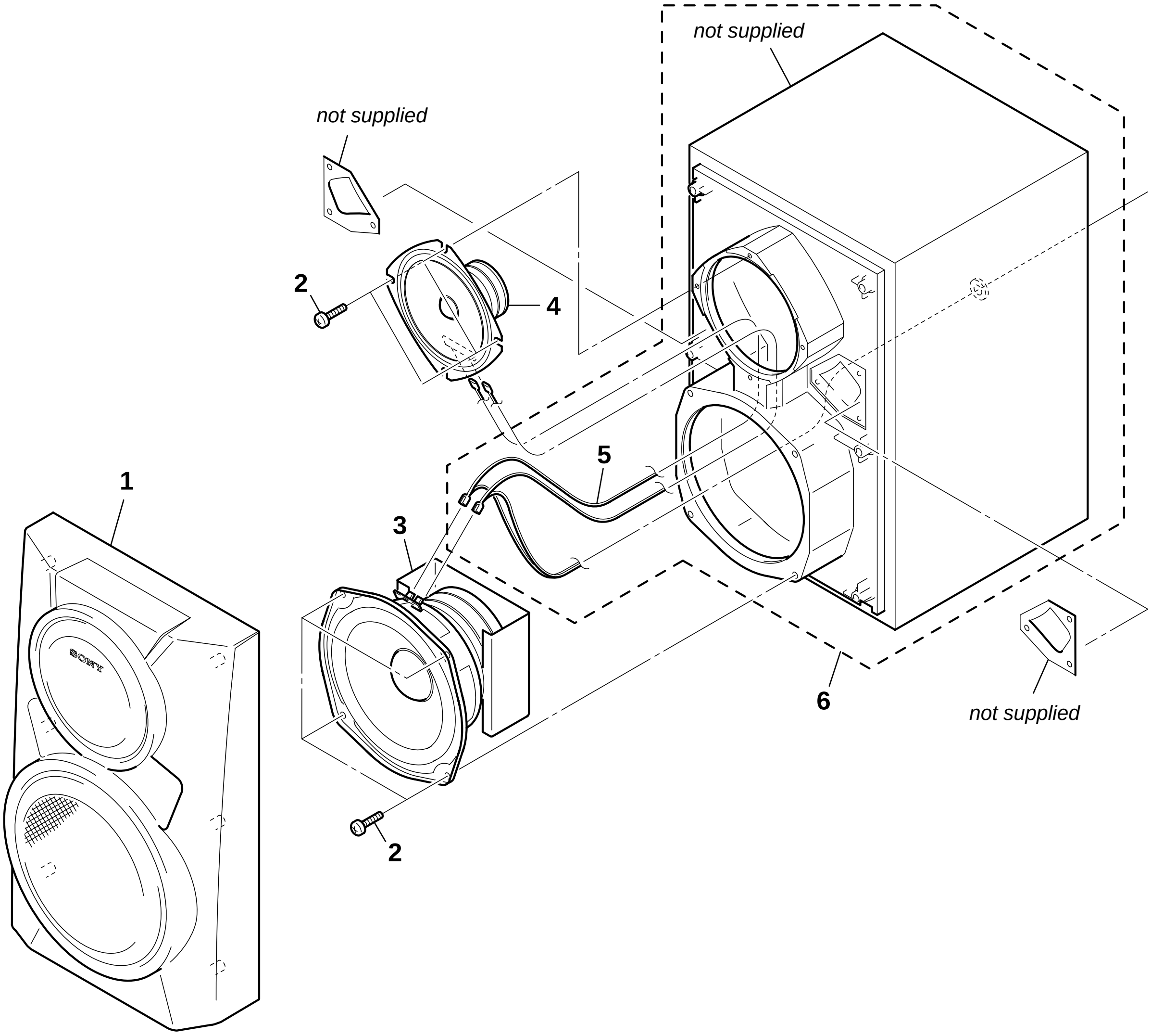
Speaker system : 2-way, bass-reflex type
Magnetically shielded type (VX33)
Speaker units
Woofer : 15 cm, cone type
Tweeter : 10 cm, cone type
Nominal impedance : 6 ohms
Dimensions (w/h/d) : Approx. 215 x 325 x 275 mm
Mass : Approx. 4 kg net per speaker

SPEAKER SYSTEM

MICROFILM

SONY®

EXPLODED VIEW AND PARTS LIST



Ref. No.	Part No.	Description	Remarks
1	A-4412-015-A	PANEL ASSY, FRONT	
2	4-874-614-01	SCREW (4) (3.5X14), TAPPING	
3	1-529-580-11	SPEAKER (15cm)(BX3,DX3)	
3	1-529-588-11	SPEAKER (15cm)(VX33)	
4	1-529-579-11	SPEAKER (10cm)(BX3,DX3)	
4	1-529-699-11	SPEAKER (10cm)(VX33)	
5	1-790-746-21	CORD, CONNECTION	
6	A-4411-959-A	CABINET ASSY, SPEAKER	

9-929-056-11

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